COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

This instruction implements AFPD 38-2, *Manpower*, and establishes AETC requirements and procedures for managing manpower authorizations, developing manpower standards, and reporting the results to support education and technical training. It applies to personnel in AETC who plan, prepare, review, approve, and conduct education or technical training. *NOTE:* For the purposes of this instruction, education and technical training will be referred to as "training." A glossary of references and supporting information is at Attachment 1. This publication does not apply to Air Force Reserve Command and Air National Guard units.

Maintain and dispose of records created as a result of processes prescribed in this publication according to AFMAN 37-139, *Records Disposition Schedule* (will become AFMAN 33-322, Volume 4).

SUMMARY OF REVISIONS

This publication is substantially revised and must be completely reviewed. Clarifies roles and responsibilities related to management of technical training requirements, updates office symbols and references, and extensively refines the process involved in maintaining, updating, and establishing technical training manpower requirements.

Chapter 1

ROLES AND RESPONSIBILITIES

1.1. Objective. Headquarters, Air Education and Training Command, Manpower and Organization Division (HQ AETC/XPM) is responsible for managing the manpower requirements determination process. This includes systematically identifying manpower required for the most effective and economical accomplishment of the training mission within organizational and resource constraints. To accomplish this objective, the following guidance relative to management of training resources to meet current and future training requirements is provided.

1.2. Roles and Responsibilities for Defining and Managing Technical Training Manpower Requirements. The following roles and responsibilities apply at the following levels (*NOTE:* Roles and responsibilities are not all-inclusive but pertain specifically to training and education manpower.):

1.2.1. Air Force Management and Innovation Agency (AFMIA):

1.2.1.1. Takes the lead as the Air Force agent for manpower studies, determinants, reengineering, and other management engineering program (MEP) processes and products.

1.2.1.2. Publishes all active duty Air Force manpower standards (AFMS).

1.2.1.3. Provides assistance to Air Force functional office of primary responsibility (OPR) in determining the appropriateness of developing AFMS and variances.

1.2.1.4. Validates, coordinates with major command (MAJCOM)/XPMs, and certifies results of new or revised AFMS and variances before AF/XPM coordinates and approves final package.

1.2.1.5. Provides MAJCOM/XPM a copy of proposed variances for their comments regarding the command's funding priorities and approved standard of living.

1.2.1.6. Annually reviews and processes all changes to AFMS received from MAJCOMs, field operating agencies (FOA), and direct reporting units (DRU).

1.2.2. HQ AETC/DOO:

1.2.2.1. Ensures schedules from Air Staff's trained personnel requirement (TPR) estimates are loaded against courses to meet pricing deadline.

1.2.2.2. Serves as Training Plan System (TPS) program manager. Hosts TPS working group meetings.

1.2.2.3. Provides validated TPR for pricing discrepancies.

1.2.2.4. Conducts training flow planning conferences.

1.2.2.5. Assigns and maintains course identifiers (dash numbers) and Personnel Data System (PDS) codes to all formal technical training courses.

1.2.2.6. Assists training groups in resolving out-of-cycle training requests.

1.2.2.7. Loads course number in TPS.

1.2.2.8. Loads discontinuation dates in TPS for discontinued or replaced courses of not later than, immediately after the last scheduled class graduation.

1.2.2.9. Accomplishes periodic purge of TPS.

1.2.2.10. Ensures that all actions impacting training/education manpower related data, for example, programs, calculations, and vendor contracts, are coordinated through HQ AETC/XPMRT.

1.2.3. HQ AETC Functional OPRs (Training Pipeline Managers [TPM] in HQ AETC/DOO and HQ AETC/SGAE):

1.2.3.1. Ensure all actions impacting training/education manpower related data, programs, calculations, or contracts are coordinated through HQ AETC/XPMRT.

1.2.3.2. Prioritize utilization of training resources through certifying, noncertifying, or queuing all training plans or annexes. Staff unfunded requirements.

1.2.3.3. Approve validated draft training plans, and certify validated Course Training Plan (CTP). Certification of a training plan is done by the TPM after HQ AETC/XPMRT validates the manpower annex, and prior to activation in the TPS.

1.2.3.4. Approve pen-and-ink changes to CTP. Submit minor changes to the manpower annex. These must be coordinated through HQ AETC/XPMRT for potential update of TPS.

1.2.3.5. HQ AETC/DOO develops and coordinates the Training Flow Management Conference (TFMC) action plan to include HQ AETC/XPMRT. An annual pricing timeline is published as part of this action plan.

1.2.3.6. Coordinate on manpower standards/variances related to training and authorization change requests (ACR).

1.2.4. HQ AETC/XPM:

1.2.4.1. Establishes command policy and guidelines to determine manpower requirements.

1.2.4.2. Provides guidance to installation manpower and organization (MO) offices through training and timely information on manpower issues impacting their installations.

1.2.5. HQ AETC/XPME:

1.2.5.1. Validates, coordinates, and certifies results of new or revised command unique manpower standards and variances.

1.2.5.2. Develops, in partnership with HQ AETC/XPMRT and HQ AETC/DOO, manpower standards and variances related to training.

1.2.6. HQ AETC/XPMRT:

1.2.6.1. Evaluates, reviews, coordinates, and assesses manpower impacts related to training for efficient and effective use of Air Force resources.

1.2.6.2. Coordinates on MAJCOM standards and variances related to training.

1.2.6.3. Accomplishes instructor pricing.

1.2.6.4. Maintains course project files for all active courses. These files normally consist of the most recent certification memorandum from the TPM and whole or parts of the CTP needed to justify course parameters or manpower. These files are not to be confused with the official copy of the CTP that is maintained at the unit.

1.2.6.5. Acts as liaison between MOs and TPMs.

1.2.6.6. Develops and disseminates the pricing timeline for courses.

1.2.6.7. Acts as focal point for the interservice training review organization (ITRO) program on matters related to manpower.

1.2.6.8. Validates manpower annex in draft training plan (TP) and CTP. Notifies TPM of expected manpower impact.

1.2.6.9. Validates course actions in TPS and activates certified courses.

1.2.6.10. Acts as approval authority for all pen-and-ink changes to manpower annex.

1.2.7. MO Offices:

1.2.7.1. Build manpower annexes and validate data associated with courses.

1.2.7.2. Maintain course project files on all active courses. These files normally consist of the most recent certification memorandum from the TPM and whole or parts of the CTP needed to justify course parameters or manpower. These files are not to be confused with the official copy of the CTP that is maintained at the unit.

1.2.7.3. Provide HQ AETC/XPMRT and HQ AETC/DOO a copy of all CTPs and drafts submitted. Medical related CTPs and drafts go to HQ AETC/XPMRT and HQ AETC/SGAE.

1.2.7.4. Request and gather/research supporting data for variances, overrides, or special requests related to manpower for training.

1.2.7.5. Act as liaison between HQ AETC and base.

1.2.7.6. Ensure/validate accuracy and track status on all manpower actions (for example, authorization change requests [ACR]) submitted.

1.2.7.7. Review accuracy of authorizations on the unit manpower document (UMD).

1.2.7.8. Forward to HQ AETC/XPMRT requests for pen-and-ink changes to CTP and minor updates to TPS. These must be coordinated through local MO if it impacts course parameters or manpower resources. See AETCI 36-2203, *Technical and Basic Military Training Development,* for specific guidance on page insert changes and write-in changes.

1.2.7.9. Ensure class schedules are based on the official TPR (student entries from the latest pricing).

1.2.7.10. Validate entries and perform manpower coordination in TPS prior to TP package (draft or final) being submitted to HQ AETC/XPMRT.

1.2.7.11. When certification memorandum from TPM is received, review parameters in TPS for correctness.

1.2.7.12. Provide manpower support at utilization and training workshops (U&TW).

1.2.7.13. Provide manpower support at ITRO resource requirements analysis meetings.

1.2.8. Training Managers:

1.2.8.1. Ensure timely submission of approved training plans (draft or final) to the local MO office. ***NOTE:*** HQ AETC/XPMRT should receive them at least 60 days prior to course start date and has a 30-day processing time from date of receipt of training plans. See AETCI 36-2203.

1.2.8.2. Ensure appropriate TPS entries such as course hours, group sizes, and shift limits, match the most current certified training plan/annexes.

1.2.8.3. Develop and submit complete packages for CTP and drafts (per AETCI 36-2203) to include all supporting documents.

1.2.8.4. Provide local manpower office three copies of all CTPs or drafts being submitted (one for MO office files; MO will send one to HQ AETC/XPMRT and one to HQ AETC/DOO -- or HQ AETC/SGAE if medical related).

1.2.8.5. Submit pen-and-ink changes to CTP and minor updates to TPS. These must be coordinated through local MO if impacting course parameters or manpower resources. See AETCI 36-2203 for specific guidance on page insert changes and write-in changes.

1.2.8.6. Forward requests for variations to the standard training day on a course-by-course basis to HQ AETC/DOO (requires group commander signature). Requests must be coordinated through local MO and HQ AETC/XPMR.

Chapter 2

UNDERSTANDING MANPOWER REQUIREMENTS FOR TECHNICAL TRAINING

2.1. Purpose. The purpose of this chapter is to provide an overview of commonly used tools in managing training resources, basics of standards development related to training, an overview of the pricing cycle, information to aid in understanding instructor authorizations, and some unique terms.

2.2. Tools and Reports:

2.2.1. World Wide Web. Numerous sites exist to aid in understanding technical training from AF instructions to course offerings. The HQ AETC home page has a division page for HQ AETC/XPM. Under the division page there are several section pages; among those is one for HQ AETC/XPMRT whose focus is related to manpower for training.

2.2.2. HQ AETC/XPMRT Homepage. Primary repository of data and programs related to manpower for training. Contains databases, programs, and examples, training modules, news memorandums, announcements, and frequently asked questions. All personnel associated with training are encouraged to become familiar with and monitor updates to this site. The address is: https://www.aetc.af.mil/xp/xpm/xpmr/xpmrt/xpmrt_index.html.

2.2.3. Manpower Data System (MDS). A database program that contains UMD related information such as position numbers, effective dates, Air Force specialty code (AFSC), organizational structure code (OSC), and Personnel Accounting System (PAS). Each HQ/XPM and MO office will have a point of contact (POC).

2.2.4. Unit Manpower Document (UMD). A database displaying unit authorization information extracted from the MDS. A computerized program will provide this information and can be used to make specific inquiries on various fields of data. HQ AETC/XPM and MO offices can be requested to make UMD queries.

2.2.5. Training Planning System (TPS). A database that contains training related information such as active courses, course length, instructor hours, student entries, and special remarks. HQ AETC/XPMRT is the POC for this system within the manpower community.

2.2.6. Manpower Standards File Register (FR). A report of data that displays information such as course parameters, pricing data, certification dates, and remarks. HQ AETC/XPMRT is the POC for this file.

2.2.7. Root Basic Authorization (BA) Register. A report of data that displays the AFSC types, ranks, and percentage of distribution earned by each pricing course. HQ AETC/XPMRT is the POC for this file.

2.2.8. Programmed Technical Training (PTT) Requirements Register (RR). A report that displays course identification number, PAS, OSC, and reflects the number of instructors priced for the course. HQ AETC/XPMRT is the POC for this file.

2.2.9. Training Requester Quota Identifier (TRQI) Report. A report that shows the projected schedule of students for each course and depicts the users such as Air Force, Army, Navy, or international students. HQ AETC/XPMRT is the POC for this report.

2.2.10. HQ AETC/XPMRT Work Center Database. This database is available on the HQ AETC/XPMRT homepage. It has two main data focuses--current data and the pricing snapshot. This program utilizes MDS and TPS data. Courses can be viewed with several extracts of data such as TPS parameters, BA, UMD authorizations, and associated courses. Individual course price-outs for new or updated courses may also be accomplished with this program.

2.2.11. AETC Manpower Pricing System (AMPS). A program utilized by HQ AETC/XPMRT that applies course parameters and schedules to determine instructor requirements. Also used during pricing cycle to interface with MDS to build a project work file (PWF) to support instructor requirements.

2.3. Terms. Refer to Attachment 1 for other acronyms or terms related to technical training.

2.3.1. Offset. A manpower resource used to fund another requirement. Utilization of offsets is validated by HQ AETC/XPMRT and approved by HQ AETC/DOO or HQ AETC/SGAE for medical training. A course being developed or an active course having revisions may impact manpower. Costs must be funded/offset from some source (base, requesting command, HQ AETC, HQ USAF). Savings generated by course parameter changes or by courses deactivating become offsets.

2.3.2. Types of Authorizations:

2.3.2.1. Overhead, Support or Course Support. Authorizations or work centers established to provide management or assistance that supports the training mission. Normally these authorizations or work centers are established in accordance with AFMS.

2.3.2.2. Instructor or "T" Prefix Authorizations. These are authorizations that accomplish instruction. Their primary duty is to conduct training. Normally a "T" prefix will not be loaded in an overhead or support area. An exception to this is developmental (DEV) coded authorizations. Any "T" requirement in a nonpodium area must be fully justified and approved by the TPM on a case-by-case basis.

2.3.2.3. Developmental (DEV) Codes. Tracking code assigned by HQ AETC/XPMRT to authorizations on the UMD assigned to the training development element (TDE). Indicates the authorization is being utilized to develop a specific course. Also see chapter 5.

2.3.2.4. Military Training Leader (MTL). Noninstructor authorizations that assist trainees in military related functions. Calculations for MTLs are based on their standard.

2.3.3. Training Type Designator. There are several training course types, for example, type 1, 2, 3, 4, 5, and 6. This is a designation in the second character of the course number that identifies the course. For a full description of course types and how to decipher a course number refer to AETCI 36-2203.

2.3.4. Special Courses. These courses are associated with other courses, primarily used in relationship to managing manpower or student scheduling such as: mother, piggyback, feeder, common, Prerequisite, supported-by, and interservice courses. See paragraph 2.6 for a detailed explanation of these courses.

2.3.5. Interservice Training Review Organization (ITRO). Involves more than one branch of the military or DoD agency. A committee representing each service's interests monitors training used by more than one branch of service. See paragraph 2.7 for information on ITRO courses.

2.3.6. Course Identification Number. The training manager creates the course number and HQ AETC/DOO assigns the dash number. It provides information such as base responsible for course, level of training, and Air Force specialty code (AFSC). For complete description on course identification number see AETCI 36-2203.

2.3.7. Queued Courses. A validated course that is not activated due to unavailability of resources. Such courses will not be activated until offsets become available. HQ AETC/XPMRT maintains a log of the queued courses.

2.3.8. Student Man-Year (SMY). Manpower resources used to compensate for lost duty time for pipeline and permanent change of station (PCS) course students due to training, and are part of the AF end strength. HQ USAF/XP is the central control for SMYs. The HQ AETC/XPMRT focus is the SMY impact of technical training courses. Also see chapter 3.

2.3.9. Programmatic. Changes made to instructor authorizations that are automatically funded. These usually occur during annual pricing and are a result of changes to the student entries from the previous fiscal year (FY) pricing.

2.3.10. Types of Manning:

2.3.10.1. Straight-Line Manning. Straight-lining is a temporary measure that freezes the resources of a pricing course, to prevent loss of resources due to unforeseen circumstances. Requests must be justified by the base and approved jointly by HQ AETC/XPMRT and HQ AETC/DOO or SGA.

2.3.10.2. Block Manning. Instructor requirements will be fixed, based on justified and approved manning levels. A block-manned course will not price, and instructor requirements will not change.

2.3.10.3. Minimum Manning. A pricing course whose variable manpower has been changed to minimum manpower. A minimum manned course may price higher or lower than the minimum level; however, earned instructor requirements will not fall below the minimum established level. Justification for minimum manning includes the need for multiple instructor requirements (MIR), security, or safety.

2.3.10.4. Compute and Adds. An authorization that is added over what the course earns, and requires justification.

2.4. Allocation of Resources for Training:

2.4.1. Overhead and support authorizations are allocated based on Air Force approved manpower standards and variances. These standards are managed and maintained IAW AFI 38-201, *Determining Manpower Requirements*.

2.4.2. Technical training courses:

2.4.2.1. Instructor allocations and SMYs are allocated to AETC for courses during each pricing and remain committed to that course until changes in course parameters or student entries cause changes in earned instructor authorizations or SMY.

2.4.2.2. Instructors are earned based on course parameters in the CTP and official total student entries identified by the Training Flow Management Conference (TFMC). The CTP allows for both direct and indirect academic requirements such as classroom preparation, additional duties, supervision, and podium time. Also see chapter 3.

2.4.2.3. Course requirements are normally priced at least once a year. See paragraph 2.5.

2.4.2.4. Resource impacts to support technical training that occur outside of pricing must be funded through command assets, base offsets, Air Staff, or requested from other commands/services. Courses will not be activated until resources are obligated.

2.4.2.5. HQ USAF/XP determines accessions required for each FY. Changes to active courses driven by these accessions are programmatic.

2.4.2.6. Authorizations for training are AETC assets, utilized at command discretion. A base may request reutilization of offsets; however, HQ AETC/DOO/SGAE has final approval authority. ***EXCEPTION:*** A command may provide authorizations to support a short-term course. Assets return to command control when the course is discontinued. These must be correctly coded and coordinated with HQ AETC/DOO/SGAE, and HQ AETC/XPMRT. A command may also provide the authorizations to start a course. However, once the interim period is complete and the course is continued, the authorizations become AETC assets.

2.4.2.7. Variances or additives to the instructor requirement are occasionally approved for unique or unusual requirements. They must be fully justified to include supporting data that documents work beyond the CTP for the course. These require a work-study by the local MO and are validated by HQ AETC/XPMRT and approved by HQ AETC/DOO/SGAE.

2.4.3. Education:

2.4.3.1. Authorizations to support education and other training related activities such as Air University, 2 AF, Basic Military Training School (BMTS), Defense Language Institute, English Language Center (DLIELC), and Inter-American Armed Forces Academy (IAAFA), are also managed by HQ AETC/XPMRT.

2.4.3.2. Allocations for education are not affected by technical training's pricing. Reference paragraph 2.5.

2.4.3.3. HQ AETC MAJCOM functional manager (MFM) approves AFSC or rank changes. These must be adequately justified and funded. Also see chapter 5 for ACR information.

2.5. Pricing Cycle:

2.5.1. Pricing refers to recalculation of earned instructor authorizations for all active pricing courses based on scheduled entries. The TFMC typically kicks off the pricing effort. However, pricing may not begin until months after the conference is complete. See Figure 2.1 for TFMC/Pricing Timeline.

Figure 2.1. Typical TFMC/Pricing Timeline.

ACTION	LENGTH	PROJECTED DATE
TFMC Conference	5 days	Set by HQ AETC/DOO
HQ AETC/DOO, HQ USAF adjustments	30 days	Begins at conference conclusion
TMs load course schedules into TPS	30 days	Begins at conference conclusion
HQ AETC/DOO sets schedule load deadline		30 days after conference
Manpower Actions		
Cut off for draft annexes-- due at HQ AETC/XPMRT		60 days prior to pricing
Cut off for training plans- due at HQ AETC/XPMRT *(see note)*		30 days prior to pricing
Wing MO check database for corrections		Start 60 days prior to pricing
HQ AETC/XPMRT pricing preparations		Start 30 days prior to pricing
Course area ACR cut off		2 weeks prior to conference
Manpower Actions		
HQ pricing	10 days	Begins after validation of entries by DOO
Wing MO corrections	10 days	Begins when pricing data release from HQ
HQ corrections	5 days	Begins when all MO corrections are in
PRICING RESULTS ARE FINAL		
NOTE: HQ does final review of courses queued for resources. Additional CTPs from the base may be requested. This is the only exception to the training plan cut off date.		

2.5.2. A snapshot of official entries (students) becomes the scheduled entries of a course for pricing. These entries are locked-in and used for recalculating manpower requirements of a course until the next pricing cycle.

2.5.3. HQ AETC/XPMRT will release notification to the MOs on the CTP/Annex deadlines when the dates for the TFMC conference and pricing are established.

2.6. Understanding Course Manpower Design:

2.6.1. Fixed Cost. All pricing courses have a fixed cost associated with them in the instructor equation.

2.6.2. Shared Resources. Some courses have common curriculum associated with them. When fixed costs are shared between courses (instead of duplicating) this is called shared resources. Some terms used to manage shared resources are: mother, piggyback, feeder, common, and prerequisite courses.

2.6.3. Mother and Piggyback Courses:

2.6.3.1. A piggyback course shares curriculum (has blocks in common) with the mother course (see Figure 2.2). Normally the mother course earns instructors; it earns manpower using the combined student schedules from the mother and applicable piggyback courses. See chapter 3 for more information on determining instructors.

Figure 2.2. Sharing Hours Between Mother and Piggyback Courses.

```
   Block 1      Block 2      Block 3      Block 4      Block 5
   (20 hrs)     (30 hrs)     (60 hrs)     (10 hrs)     (30 hrs)

▲▲    ┌─────────────┬────────────┬─────────────┬───────────┐
│     │          Mother          Course        │           │        150 hrs
│     └─────────────┴────────────┴─────────────┴───────────┘
│  150 course hours
│  30 TPR
│
│        ┌──────────────┬────────────┬───────────┐
│        │         Piggyback    A     │           │                 120 hrs
│        └──────────────┴────────────┴───────────┘
│  120 common hrs
│  10 TPR
│
│        ┌──────────────┬────────────┬───────────┬────────┐
│        │         Piggyback    B     │           │        │        150 hrs
│        └──────────────┴────────────┴───────────┴────────┘
   150 common hrs
   40 TPR
```

Piggyback course A attends 4 blocks of the mother course (shares 120 course hours). Piggyback course B attends 5 blocks of the mother course (shares 150 course hours). Courses A & B attend the mother course because the course curriculum is identical for the blocks attended.

The associations screen in TPS for the mother course should show the 120 and 150 hours from the piggyback courses. The mother's association screen will always match the piggyback common hours.

The mother course prices with the sum of the mother and piggyback TPR (based on average daily student load [ADSL]). Piggyback courses do not price for the common hour portion.

2.6.3.2. A course manpower price-out is submitted for both mother and piggyback courses, outlining the course parameters to be entered into the manpower standard's file.

2.6.3.3. Manpower will draw a diagonal line through the price-out impact and add the statement "piggybacked on (course number)." The group sizes and shift group limit are those of the basic course.

2.6.4. Feeder Courses. Feeder courses have schedules that feed into another course, normally "common courses". They do not earn instructors; however, they do have SMY costs (see Figure 2.3).

Figure 2.3. Feeder Courses.

Figure 2.3. Feeder Courses.
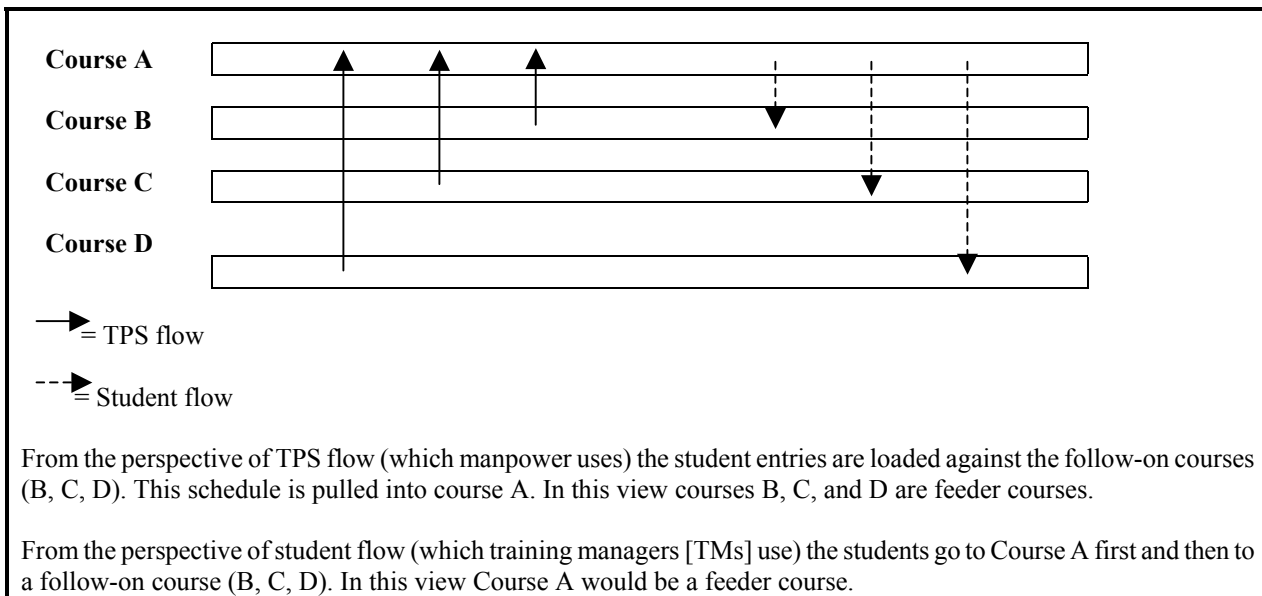
2.6.5. Common Courses. These courses have no schedules of their own, they price from schedules fed from feeder courses. They are established by manpower for pricing purposes and have a "T" or "U" in the fourth position of the course ID number (see Figure 2.4).

Figure 2.4. Common Courses.

Figure 2.4. Common Courses.
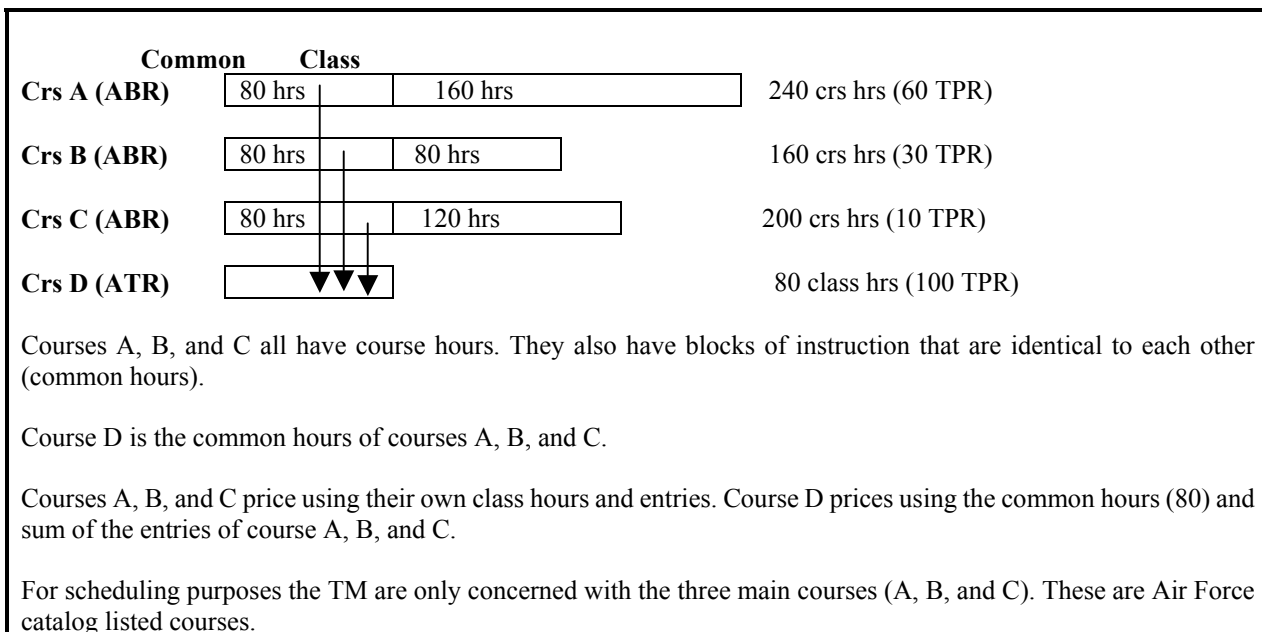
2.6.6. Prerequisite Courses. These courses must be attended before entering the basic three-level AFSC awarding course. Prerequisite courses have a "Q" in the fourth position of the course identification number (see Figure 2.5).

Figure 2.5. Prerequisite Courses.

```
┌──────────────────────────────────────────────────────────────────────────────────────┐
│  Sheppard                                                                              │
│ Blk 1            Blk 2                  Dover                                           │
│ ┌────────────────┐                                        ┌──────────────────┐         │
│ │ Course A (AQR) │───────────────────────────────────────▶│ Course E (ABP)   │         │
│ │ 100 hrs        │                                        └──────────────────┘         │
│ └────────────────┘                                                                     │
│   20 TPR                                                                               │
│                                       Keesler                                          │
│ ┌────────────────┬──────────────┐                         ┌──────────────────┐         │
│ │ Course B (AQR) │              │                         │ Course F (ABR)   │         │
│ │ 100 hrs        │ 100 hrs      │────────────────────────▶└──────────────────┘         │
│ └────────────────┴──────────────┘                                                      │
│   10 TPR                                                                               │
│                  Lackland              Whiteman                                        │
│ ┌────────────────┬──────────────┐    ┌────────────────┐   ┌──────────────────┐         │
│ │ Course C (AQR) │              │───▶│ Course G (AQR) │──▶│ Course H (ABR)   │         │
│ │ 100 hrs        │ 50 hrs       │    └────────────────┘   └──────────────────┘         │
│ ├────────────────┴──────────────┘                                                      │
│ │ 5 TPR                                                                                 │
│                                                                                        │
│ ┌────────────────┐                                                                     │
│ │ Course D (ATR) │                                                                     │
│ │ 100 hrs        │                                                                     │
│ ├────────────────┘                                                                     │
│ │ 35 TPR                                                                                │
│                                                                                        │
│ Note that AQR courses may also have common hours (ATR course).                         │
│ Note that an AQR course may be follow-on to another AQR course.                        │
└──────────────────────────────────────────────────────────────────────────────────────┘
```
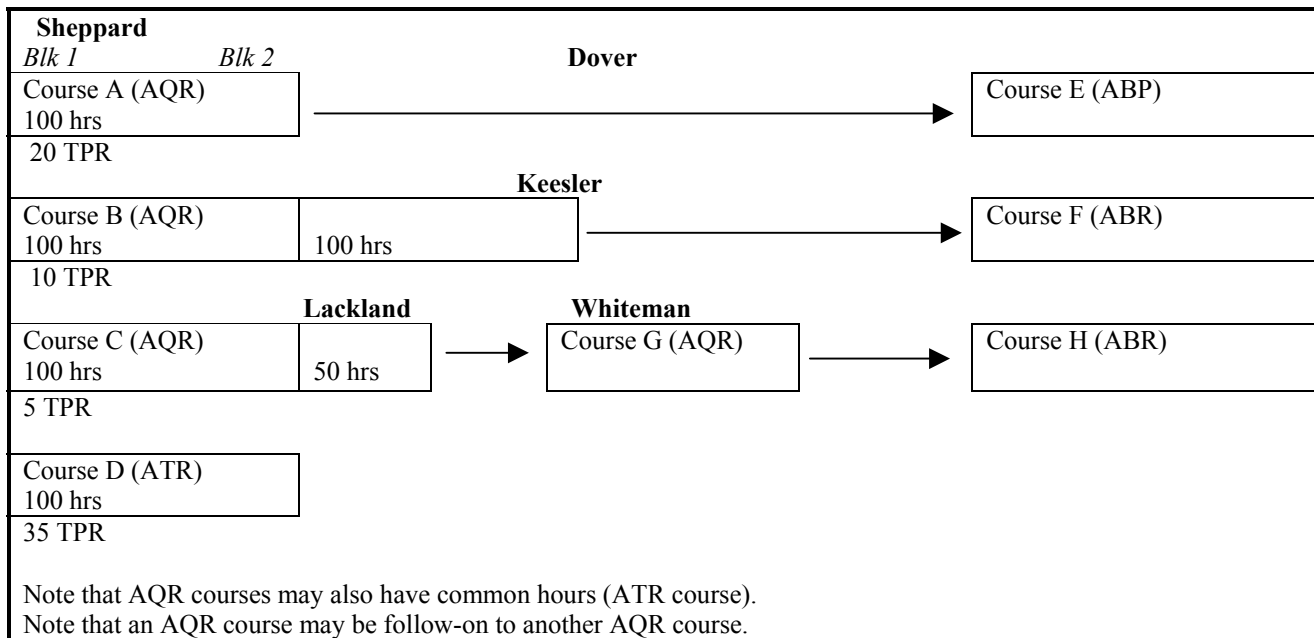
2.6.7. "Supported By" Courses. Courses that can be conducted between classes or in conjunction with another course are identified as a "supported by" course.

2.6.7.1. Instructors of another course within the family group (FG) conduct these courses.

2.6.7.2. A complete manpower annex is submitted for review and approval. However, a diagonal line is drawn through the price-out impact and the statement "supported by the family grouping" is added.

2.7. Interservice Training. Interservice training is defined as two or more military services training together in an institutional setting (a formal school vice a joint training exercise conducted by operational commands).

2.7.1. Interservice Training Review Organization (ITRO) Courses. The ITRO is an organization of the military services, established to eliminate training redundancy between the services. Services voluntarily agree to train together via the ITRO. The ITRO Deputy Executive Board (DEB) approves all ITRO recommendations to train together. The ITRO Steering Committee, consisting of representatives from the military services and the Coast Guard, coordinates the day-to-day activities of the ITRO. There are two types of ITRO courses: consolidated and collocated.

2.7.1.1. Consolidated courses have curriculum that is developed through agreement by all the participating services and managed by the host or lead service. For example, each of the services needs training for basic weather fundamentals. Each service will provide a fair share of instructors based on that service's percentage of the total planned student input.

2.7.1.2. Collocated courses are managed and conducted by one service, while sharing another service's facilities/equipment. An example would be a course the Air Force (owning service) teaches at a naval station using Navy equipment and facilities. Instructor requirements will be computed using each service's own computation procedure.

2.7.2. Department of Defense (DoD) Executive Agency (EA) Courses. Interservice training is mandated by a DoD agency, which assigns an EA, or lead service/agency. As with ITRO consolidated courses, each service will provide a fair share of instructors based on that service's percentage of the total planned student input.

2.7.3. Quota Courses. Quota course curriculum and seats belong to a host service, which allots seats to other services. *NOTE:* If a quota course begins to have a large portion of seats allocated (and used) by other services, it should be reviewed as a candidate for consolidation. See ITRO Procedures Manual.

2.7.4. Type 3 or Type 5 Courses. Interservice courses may be either type 3 or type 5. Type 3 courses are Air Force courses; type 5 courses are another service's or DoD agency courses.

2.7.4.1. Type 3 Courses. These will be ITRO consolidated or collocated, DOD or quota. HQ AETC manpower will bill other services annually for their share of instructors.

2.7.4.2. Type 5 Courses. The host/lead service annually bills the Air Force for instructors, if appropriate.

2.7.5. When an interservice CTP is submitted, the base MO must identify the course as DOD, consolidated, collocated, or quota. See chapter 3 for an explanation on equation.

2.7.6. For more information on ITRO courses and their management, see AFI 36-2230(I), *Interservice Training* and the Interservice Training Review Organization Procedures Manual (dated 22 Oct 98—obtained from HQ AETC/DOJ).

Chapter 3

COMPUTATION AND FORMULA INFORMATION

3.1. Purpose. The purpose of this chapter is to provide information on the construction and calculations related to: manpower annex, standard course formulas (models), washbacks, student man-years, and basic authorizations (BA). Some information is also supplied related to pricing interservice training courses. *NOTE:* Changes to the CTP parameters that cause an increase in manpower (SMY/instructors), must identify offsets before the course is activated. Reference AETCI 36-2203.

3.2. Manpower Annex:

3.2.1. Basic understanding of the areas included in the annex will assist technicians in processing training plans, ACRs, and variances. The formula for calculating instructors is provided; however, use of automated programs or spreadsheets is preferred to manual calculation to reduce occurrence of errors.

3.2.2. Technical training course man-hours and workload, as in any other manpower standard, falls into two categories: direct and indirect. Direct man-hours are attributed to performance of the mission (teaching students). Indirect man-hours are spent in support of performance of the mission (other than teaching students).

3.2.2.1. Direct hours are the classroom and/or laboratory hours required by the plan of instruction to train students to a specified level. See Attachment 2 for a detailed description of direct hours. Document training hours sequentially by day or unit of instruction on the AETC Form 896, **Lock Step/Multitrack Course Evaluation Data**, for all courses requiring multiple instructors (Chapter 4). Each hour or grouping of hours requiring more than one instructor is documented separately and justified in the course evaluation data sheet (CEDS). The total classroom or laboratory instructor hours then become academic instructor hours per group for the course length, and are converted to monthly academic instructor hours.

3.2.2.2. Indirect hours provide support for the course, group, student, shift, and instructor (see Figure 3.1). See Attachment 2 for a detailed description of indirect hours. Standard indirect man-hours required to perform these tasks were obtained by operational audit and approved by HQ USAF (see Attachment 3).

Figure 3.1. Indirect Hours.

Indirect man-hours for a technical training course are divided into 5 support categories. Each category is composed of various related tasks.

COURSE: Course materials, publications, forms, tests, training aids, equipment, awards, distribution, meetings, budget, and training evaluation.

GROUP: Classroom preparation, tutoring, re-testing, student records, orientation, scheduling, test analysis, and graduation.

STUDENT: Student record initiation, counseling, student board meeting, review/grade student assignments, student evaluation, and washback/elimination action.

SHIFT: Janitorial detail supervision, instructor meetings, security checks, coordinates maintenance, reviews publications, correspondence, and supplies.

INSTRUCTOR: Course qualification, lesson plans, AFSC upgrades, proficiency temporary duty (TDY) instructor ratings, orientation, awards, and schedule.

3.3. Standard Course Formulas (Models):

3.3.1. Type 1 Courses. Instructor and SMY calculations are not done for type 1 courses. These are contractor courses whose costs are calculated through channels outside of HQ AETC/XPMRT.

3.3.2. Type 2, 3, 4, 5, and 6 Courses. These courses have various models that are used to identify manpower requirements. Although courses have some common factors, each course has variations in course length and AFSC requirements. Essentially each course is a single point standard for manpower. Reference Attachment 4 for course price-out sheets of each type course (except type 2).

3.3.3. Type 3 Courses. Type 3 training is the more common Air Force specialty (AFS)-centered training of a continuing nature conducted at an AETC base, location, or station. It includes basic, lateral, advanced, and supplemental courses.

3.3.3.1. The basic manpower model used is for the type 3 courses. It consists of a mathematical equation that quantifies the relationship between instructor manpower requirements, and the programmed variable workload (group and student load). This equation is of the general multivariate form: $Y = a + b_1 (G) + b_2 (L)$. Reference Attachment 3 for a definition of variables and a thorough understanding of technical training model development.

3.3.3.2. Formula calculations are automatically determined when parameters are input into TPS.

3.3.3.3. Calculations for type 3 courses are summarized on a course price out and CEDS. See Attachment 4.

3.3.4. Type 2 and 4 Courses:

3.3.4.1. Type 2 courses are considered special training and are a one-time or limited nature. They normally do not have any manpower associated with them and do not price. Most type 2 courses are supported by the family group and do not need a BA loaded.

3.3.4.2. Type 4 courses are special or regular onsite training conducted by mobile training teams (MTT) or field training teams (FTT).

3.3.4.3. The development of a detailed standard (similar to type 3 formula) would be a costly and time-consuming method in relation to course duration and number of students trained. See Figure 3.2 for a typical computation of type 4 courses. Calculations for type 4 courses are summarized on a Course Manpower Annex (see Attachment 4).

Figure 3.2. Type 4 Course Computations.

Step	Action
1	A factor of 2.51 instructor authorizations per group is used for Type 4 courses. This factor was established by joint agreement between HQ AETC/XPMRT and HQ AETC/DOO based on existing factors for type 3 courses, and allowing for factory training, travel, new course preparation, and sporadic class frequency.
2	Group data is computed by the formula: Groups = (Annual student entries required) X (Course length in weeks) (49.2 academic weeks per year) / (Programmed group size)

Step	Action
	This group data is computed for each special training course.
3	Multiply applicable group factor from step 1 by the computed groups from step 2. This yields fractional instructor manpower for each course, which is rounded up to the next whole number.
4	The BA for the course determines grade and skill distribution.

3.3.4.4. Type 4 course price outs will include (as a minimum) the following information:

3.3.4.4.1. Course title and number.

3.3.4.4.2. Organizational data (OSC, PAS, functional address code [FAC]—if known or FAC area).

3.3.4.4.3. Course parameters (course length, shift group limit, programmed group size).

3.3.4.4.4. Annual student entries.

3.3.4.4.5. Manpower impact from the calculations in Figure 3.2.

3.3.4.4.6. Other. Also indicate if the course supports another course, is supported by, or piggybacked on another course/family group.

3.3.5. Type 5 Courses. These are usually interservice courses hosted/managed by other services or DoD agencies; for example, the Army, Navy, Marines, or Coast Guard with Air Force students in attendance. *NOTE:* Not all type 5 courses are interservice or hosted/managed by other services. There are type 5 courses, which are owned by other AF agencies, and other services do not attend. For example, Phase II of many medical training is done at AF hospitals and are numbered as J5AZO****.

3.3.5.1. The Type 5 Course Manpower Annex is used for tracking SMYs and inputs are summarized on a Course Manpower Annex in Attachment 4.

3.3.5.2. With the exception of some medical courses, HQ AETC/XPMRT is sent an instructor bill from the host services on an annual basis. These instructors are then added to the UMD under the respective course number.

3.3.6. Type 6 Courses. Type 6 courses are job site training (JST). JST is technical training delivered to students at their base of assignment without an AETC instructor physically present. Reference terms or AETCI 36-2208.

3.3.6.1. The manpower documents required, at a minimum, are a type 6 manpower baseline data and pricing record. Calculations for type 6 courses are summarized on a course manpower baseline data and pricing record. See Attachment 4.

3.3.6.2. When manpower resources are associated with type 6 courses, a FAC and OSC is assigned (fourth digit of OSC will be "V"; for example, UEAV), and are always block-manned.

3.3.7. Interservice courses have their own formula and requirements, refer to paragraph 3.9. Calculations for interservice courses are summarized on an ITRO Pricing Record. See Attachment 4.

3.4. Development of a New Course Standard:

3.4.1. HQ AETC/XPMRT work center database has been developed to derive the command B_i and classroom/lab instructor hours when new type 3 courses with no historical experience and/or insufficient course control documents are available.

3.4.2. To manually calculate the B_i and classroom/lab instructor hours see Figure 3.3.

Figure 3.3. Command B_i and Classroom/Lab Instructor Hours Calculations.

Step	Action
1	Determine the type of course, i.e., initial or supplemental, officer or enlisted, and if course requires MIRs.
2	Use the criteria in step 1 and the current command pricing records of like courses, sum and average the classroom/lab instructor hours. This average becomes the classroom/lab instructor hours for the new course.
3	Take the figure from step 2 and multiply it by the course length in days. Divide this figure by 20.91 to determine the monthly classroom/lab instructor hours (or the B_i).

3.4.3. New course manpower standards based on command average B_i will be approved for 1 year only and managed as interim courses. After that time, a new annex based on course operation experience is required.

3.4.4. Determine parameters such as group sizes and shift group limit, in coordination with the training manager and submit justification on the CEDS.

3.5. Washback:

3.5.1. Students who are held back or restarted in a course due to academic or physical reasons are tracked as washbacks. Washbacks impact the number of students in a course and are reflected on the course price out.

3.5.2. Program group size (PGS) may be adjusted to account for recurring washback rates. The registrar tracks actual washbacks via the Training Course Status Report. MOs will submit a copy of the Training Course Status Report page that reflects the data used in the washback computation.

3.5.3. The washback computation sheet will be formatted to include the date completed, course number, actual graduates, advancements, eliminations, washbacks experienced, and the computations. This is a manpower document and should be filled out by the local MO with input from the TM. See Attachment 5.

3.6. Aggregation:

3.6.1. Aggregation occurs in a FG during pricing only. Courses with like AFSC or area of instruction are grouped together as a family. FG is controlled by OSC and PAS. A course will be assigned an OSC relative to other courses in the same AFSC unless it is geographically separated or justification is provided in the CTP as to why it shouldn't be family grouped. FG assists in resource sharing (aggregation).

3.6.2. Aggregation is done by comparing the total instructors earned based on the FG total fractional manpower versus the total of instructors earned for each course. See Attachment 6.

3.6.3. Regardless of whether a course is family grouped, when it is initially submitted, it stands alone. It must identify offsets/resources as the pricing sheet indicates. Aggregation is only applied during the next pricing cycle.

3.7. Student Man-Year (SMY):

3.7.1. Manpower resources used to compensate for lost duty time for pipeline or PCS course students due to training, and are part of the AF end strength, are called student man-years (SMY). SMY are equivalent to "average daily student load (ADSL)." Student and trainee manpower must be programmed to account for the fact that personnel in formal school training are not available for duty with operational units. All of these personnel must be paid, housed, and supported. SMY tracking has been established to accomplish this goal.

3.7.2. Personnel undergoing individual training while on temporary duty from their unit of assignment of less than 100 days and students between courses are not included in SMY calculations for courses. *EXCEPTION:* Students trained while enroute to new stations.

3.7.3. Use the formula in Figure 3.2 to compute SMY while students are in a technical training course.

Figure 3.4. Student Man-Year Equation.

SMY for technical training courses:

$$\frac{\text{*student entries x course length days}}{246 \text{ training days}} \ = \ \text{SMY}$$

SMY for interservice training courses:

$$\frac{\text{*student entries x course length days}}{250 \text{ training days}} \ = \ \text{SMY}$$

* Student entries used for SMY must be the official amount as approved by 2AF and/or the ITRO committee.

3.7.4. Training requester quota identifier (TRQI) codes are assigned by the Air Force Personnel Center (AFPC). HQ AETC/XPMRT uses TRQI codes to assist in tracking SMYs. Figure 3.5 identifies the TRQI codes commonly used to calculate pipeline SMY.

Figure 3.5. TRQI Codes Used for SMY.

Training Requester Quota Identifier (TRQI) Codes Commonly Used by Manpower for SMY Calculations

AJ1K   *Prior service enlisted
AJ10   *Non-prior service (NPS) basic courses (pipeline)
AJ20   *Military training – BMT/OTS
AJ30   *Follow-on training (pipeline)
AJ40   *Follow-on training-able programs
A1LP   *PJ (pipeline)
A2LP   *PJ officers (pipeline)
AM10/AM11   *Officer accessions (pipeline)

* -- Immediate student man-year impact regardless of number of days

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3.8. Root Basic Authorizations (BA):

3.8.1. Every course that prices must have a BA. A course that is piggyback or supported by will not have a BA. The BA determines by percentages the grade and AFSC that a course will receive for the number of instructors it earns. It also determines unique requirements such as set costs, compute and adds, and subtractives.

3.8.2. When a course is developed, the requirements for the BA are also determined and should be included in the CTP. The BA identifies the percentages needed for each rank and AFSC, plus general information such as the course identification number, the OSC, PAS, and FAC.

3.8.3. The majority of courses have no special requirements for their BA and thus use a standard BA format based on the AFSC the course instructs, and whether the training is initial skill or supplemental. These are required grades; authorized grades may differ based on availability of grade resources. *NOTE:* Civilian grades and AFSCs are equivalent.

3.8.3.1. Initial skills-enlisted (ABP, ABR, ALR, AQP, AQR, ATP, ATR) PEC end in "D." Rank percentages are:

3.8.3.1.1. MSgt (7 skill level) – 4 percent.

3.8.3.1.2. TSgt (7 skill level) – 8 percent.

3.8.3.1.3. SSgt (5 skill level) – 44 percent.

3.8.3.1.4. SrA (5 skill level) – 44 percent.

3.8.3.2. Advanced/supplemental courses-enlisted (AAR, ACP, ACR, ADL, AGL, AIR, ART, ASR, AST, AUR, AZP, AZR, AZT) PEC end in "E". Rank percentages are:

3.8.3.2.1. MSgt (7 skill level) – 16 percent.

3.8.3.2.2. TSgt (7 skill level) – 44 percent.

3.8.3.2.3. SSgt (5 skill level) – 40 percent.

3.8.3.3. Officer courses (all course types). Rank percentages are:

3.8.3.3.1. Captain – 60 percent.

3.8.3.3.2. Lieutenant – 40 percent.

3.8.4. Nonstandard BAs must be identified and justified as exceptions to the standard format. These are for courses that have actions outside the parameters of a standard BA such as: civilian authorizations, different percentages, set costs, AFSC different from the course being taught, compute and adds, certain grades required, a mix of grades and/or AFSC, and subtractives for civilian reductions or special circumstances.

3.8.4.1. Set cost refers to a specific authorization that is required for a course before any percentage calculations are done. All civilian entries on a BA are coded as set cost. Set costs can also be established for ranks and AFSCs.

3.8.4.2. Compute and adds are done when an additional authorization is given to a course above what they earn based on normal course models. Very few courses justify compute and adds.

3.8.4.3. Subtractives are done when an authorization that is earned based on normal course models is not allowed. These are usually associated with an AF directed reduction in civilians.

3.8.5. Computing BAs (see Attachment 7):

3.8.5.1. Set costs must be earned. For example, if a course earned 3 authorizations but had a set cost of 4 it would not receive 4 authorizations; it would receive 3 (you cannot receive more authorizations than you earn). Note that this holds true for civilian authorizations too, and may result in adverse impact for courses that are manned totally with civilian instructors when the set cost isn't earned.

3.8.5.2. A new or revised course must show the distribution of only the earned amount of set cost on the BA submitted with the CTP (you cannot have a set cost on the BA that is not earned).

3.9. Interservice Course Manning:

3.9.1. Instructors earned for ITRO courses are priced by the host/lead service as determined by the ITRO Deputy Executive Board. This section refers to ITRO courses owned by the Air Force.

3.9.2. Interservice courses managed by the Air Force, regardless of any Air Force TPR, will have a CTP developed, validated, certified, and activated similar to other AF courses of the same type (for example, type 3 or type 4).

3.9.2.1. Base MO representative (coster) will receive approval from HQ AETC/XPMRT prior to committing resources.

3.9.2.2. Prior to activation of course, HQ AETC/XPMRT will attain HQ AETC/DOJ concurrence that the ITRO DEB has approved the course for consolidation or revision.

3.9.3. The equation used for calculating instructors is slightly different. Refer to AFI 36-2230(I) for guidance.

3.9.4. The rounding rules for converting fractional instructors to earned instructors is also different (use the table provided in the ITRO Procedures Manual).

3.9.5. Calculating SMY is also different. Training days for interservice courses is 250.

3.9.6. Methodology to price ITRO courses differs from that used to price other technical training courses. Consolidated is ITRO priced. Collocated is priced using AF technical training (TT) standard model. Quota is ITRO priced if they have other services attending; however, if no instructor bill results for the other services it is repriced with the AF TT standard model.

3.10. Review of Course Manpower Standards:

3.10.1. Final Course Review. MO offices review each resident training course at 3-year intervals--normally during the anniversary (month) of the DOO certification date in TPS.

3.10.2. Interim Course Review. Interim course review is completed after 3 classes have run or at the 1 year anniversary of the CTPs certification. Interim course review dates are loaded for only one year.

3.10.3. During Reviews. During these reviews, the MO office should contact the TM for curriculum currency. If different course parameters or MIR exist, the course requires an evaluation, which will consist of validation through observation (sampling) of portions of a block of instruction, and an interview of course personnel.

3.10.3.1. Reporting-No Change. If upon review it is determined that course parameters have not changed, the base MO will send a memorandum to HQ AETC/XPMRT stating the course number, date of review, and the statement: "This course has been reviewed with the course manager or responsible official. No changes in multiple instructor requirements, group sizes, or course parameters were identified."

3.10.3.2. Reporting-Undergoing Revision. If the course is undergoing revision or a new training plan is being developed, the base MO will send a memorandum to HQ AETC/XPMRT stating the course number, the statement: "Course is undergoing revision," and the estimated date for submission of revision.

Chapter 4

MANPOWER ANNEX/COURSE TRAINING PLAN (CTP) CERTIFICATION PROCESS

4.1. Purpose. The purpose of this chapter is to focus on manpower documentation and processes related to the CTPs. Information addressing nonmanpower related facets of the CTP certification process are covered in AETCI 36-2203.

4.2. Course Training Plans (CTP):

4.2.1. Abbreviated CTP. A partial CTP for minor revisions is outlined in AETCI 36-2203. An Abbreviated CTP supplements the most current certified CTP for the course.

4.2.2. CTP. These are submitted for a new course or for one course that is superseding/replacing another course.

4.2.3. Draft Manpower Annex. These are submitted for a new course with known resources, however at the time of submission, the resources are not available to activate the course. When HQ AETC/XPMRT has validated the draft annex, they will send a memorandum to the TPM requesting approval to use/fund resources. If approved, HQ AETC/DOO and SGA will request a final CTP from the base. If not approved, HQ AETC/XPMRT will place the draft annex into a queued log awaiting resources.

4.2.4. Course Resource Estimates (CRE). A CRE is the initial vehicle to seek resource funding in support of the training process. A CRE is developed by the TM and is intended to be an accurate estimate, but not in finite detail. See AETCI 36-2203 for CRE requirements. HQ AETC/XPMRT processes a CRE as a draft annex.

4.3. Basic Manpower Documents for CTP Processing. Refer to Figure 4.1 for required documents. Reference Attachment 4 for examples of the documents that are identified with an asterisk (*).

Figure 4.1. Basic Manpower Documents for Course/Draft.

INSTRUCTIONS: All CTP/draft documents required by AETCI 36-2203 are required in the submitted CTP/draft. The chart below only illustrates those documents of particular interest to manpower. Analysis of the entire package may be required to determine correct manpower impact.

	NOTES	Draft Annexes	CTPs
MO Cover Memorandum	1	X	X
Course Chart (AETC Form 449)	2		X
Course Price Out	3	X	X
Course Evaluation Data Sheet	4	X	X
Washback Computation Sheet		As applicable	As applicable
Training Course Status Report	5		
MIR Chart (AETC Form 896 or comparable)	6	As applicable	As applicable
MM justification		As applicable	As applicable
Safety Memorandum			As Applicable
Annotated BA			As applicable
CCAF Memorandum	7		As applicable
Environmental Memorandum (AF Form 813)			As Applicable
Interservice Executive Order	8		X

NOTES:

1. Cover memorandum for multiple course packages must reference all involved courses and the relationship between them (how many offsets, where offsets are needed/spent, replacement courses etc). All cover memorandums should list the MO point of contact (POC) for the course.

2. Course chart is not required in abbreviated CTP if there are no course hour changes. Draft annex may be processed without a course chart, however, hours submitted on the course price out must match the course chart that is submitted in the final CTP.

3. Price out sheets should match course type:

        Type 3 price out sheet   Type 5 price out sheet
        Type 4 price out sheet   Type 6 price out sheet
        ITRO price out sheet   For type 3 or 4

  MO and school CC must sign price out sheets. Price out sheets may not be needed if manpower variables did not change.

4. CEDS may not be needed if manpower variables did not change. Type 5 CTP is not needed if course does not price, however, training hours and days must be identified.

5. Required only when submitting washback computation sheet.

6. Must have memorandum from safety office if MIR hours are due to safety reason. Not needed for ITRO consolidated, as price sheet should reflect MIRs. Not needed if interim course using B_i (reference chapter 3).

7. Courses without Community College of the Air Force (CCAF) Memorandum will be processed but will be entered into TPS without academic education level (AEL) codes. *EXCEPTION:* Not required for initial skill courses. For manpower purposes all courses that are not initial skills are supplemental.

8. Applies to ITRO courses only.

4.3.1. MO Office Cover Memorandum. All courses or drafts must have a MO office cover memorandum. Memorandum acknowledges the MO has reviewed and validated the attached CTP.*

4.3.2. Course Chart. Document providing summary of training; outlining the general structure and content of the course, and formatted on an AETC Form 449, **Course Chart.** See AETCI 36-2203, Chapter 6.

4.3.3. Course Price-Out Sheet. Both the MO chief and squadron commander (or their designated representatives) sign the course price out. The course price out justification section will include requests for offset use from other courses/sources, courses being replaced, actions desired for BA, and summarize overall manpower impact for the course.*

4.3.4. Course Evaluation Data Sheet (CEDS). Summary and justification of manpower parameters for a course.*

4.3.5. Washback Computation Sheet. Documentation showing washback calculation. See Attachment 5.

4.3.6. Multiple Instructor Requirement (MIR) Form. Chart depicting number of instructors utilized by block. Must match descriptive data on course evaluation data sheet. Data is listed on an AETC Form 896. Diagrams illustrating MIRs may be required by HQ AETC/XPMRT when deemed necessary. Diagrams should be included in the package if expedited processing of a CTP is desired.*

4.3.7. Minimum Manning (MM). Minimum manpower provided to ensure enough instructors are available when a course cannot be family grouped, and the MIR cannot be eliminated. Specific justification must be submitted for MM such as MIR, safety, or security. If based on safety, a memorandum from the wing safety office must be included. If based on security, cite regulation. Refer to Attachment 4.

4.3.8. Safety Memorandum. Document signed by wing safety office justifying MM for a course. References specific Air Force occupational safety and health (AFOSH) or technical order (TO) requirement.*

4.3.9. Root Basic Authorization (BA). See chapter 3 for BA requirements.

4.3.9.1. New Course. The CEDS must state either "roll over BA" from replaced course; or "use standard BA," identifying specific AFSC, compute and adds, or set costs.

4.3.9.2. Revised Course. A copy of the most current BA showing changes needed to support CTP requirements. Must match CEDS instructions.

4.3.10. Community College of the Air Force (CCAF) Memorandum. Establishes course as CCAF certified. Courses without CCAF memorandum will be entered in database without AEL code. *EXCEPTION:* Memorandum not required for initial skill courses. For manpower purposes all courses that are not initial skills are supplemental/advanced.

4.3.11. Environmental Assessment Annex. Documentation of environmental impact analysis, on AF Form 813, **Request for Environmental Impact Analysis,** with results from the environmental impact analysis process. See AETCI 36-2203.

4.3.12. Interservice Executive Order. This applies to ITRO courses only. Any change to an ITRO consolidated course must be approved by all participating services. HQ AETC/DOJ will distribute an ITRO executive order, advising the base and HQ AETC/XPMRT that the course consolidation, deconsolidation, revision, or collocation has been approved by all parties and can be implemented.

4.4. Timely Submission of Annex or TP:

4.4.1. CTPs, abbreviated CTPs, and draft annexes normally have a 30-calendar day processing time within HQ AETC/XPMRT. This timeframe allows 10 days for certification by the TPM.

4.4.2. CTPs should arrive simultaneously at HQ AETC/XPMRT and the TPM a minimum of 60 days prior to class start.

4.4.3. HQ AETC/XPMRT activates or modifies courses in the database after certification by the TPM.

4.4.4. If CTPs (new/abbreviated) are to be included in the next pricing cycle, drafts must be submitted to HQ AETC/XPMRT at least 60 calendar days prior to pricing. The base MO must submit the final CTP to HQ AETC/XPMRT 30 calendar days prior to pricing.

4.4.5. If a CTP or annex does not meet the pricing deadline, the base will have to reprice the course price out using the latest pricings' official entries and resubmit to HQ AETC/XPMRT. This includes obtaining signatures on the new course price out.

4.5. Manpower Steps in CTP/Annex Process Flow:

4.5.1. General information and CTP process flowcharts are delineated in AETCI 36-2203.

4.5.2. Once the decision is made to revise or establish a course, the training manager provides the wing MO the related data to build the manpower annex.

4.5.3. The wing MO must research and validate all manpower data related to the CTP or draft.

4.5.4. The wing MO builds the manpower annex to include but not limited to: the course price out; course evaluation data sheet; multiple instructor requirement; minimum manning request and; all diagrams, charts, and work study paperwork necessary for determining manpower for the CTP.

4.6. Database Entries for Manpower. Prior to a new CTP being submitted (except draft annex) by the base, several entries must be made in the manpower database (TPS).

4.6.1. Wing MO Responsibilities:

4.6.1.1. Ensure all course parameters are complete and match CTP being submitted.

4.6.1.2. Perform MO coordination.

4.6.2. HQ AETC/XPMRT Responsibilities:

4.6.2.1. Load all pertinent course data in TPS.

4.6.2.2. Perform final check of course parameters in TPS against CTP.

4.6.2.3. Perform HQ AETC/XPMRT coordination and course activation.

4.7. Manpower Annex:

4.7.1. The wing MO develops and furnishes the manpower annex. This requires a cooperative effort with the training manager. Validation of data is necessary to make an accurate determination of the required manpower resources.

4.7.2. The manpower annex consists of the course price out, CEDS, annotated basic authorization (for nonstandard BA), washback computation sheet (if needed), and MIR worksheet (if needed). Complete justification of minimum manning must be included (see paragraph 4.3.).

4.7.3. Additional information or diagrams may be requested to aid in the analysis of the manpower requirement for the CTP or annex submitted.

4.7.4. Course support or maintenance activity (other than compute and adds) are requirements associated with conducting training and are not submitted with a CTP. A workstudy package documenting these manpower requirements must be submitted in a variance.

4.8. Resource-Oriented Information for CTPs:

4.8.1. Discontinued Courses. A course that has as no savings left or offsets to use; however if a course is scheduled to discontinue it may be used to provide offsets for another course. A price out showing the savings from the discontinued course must be included in the CTP package for evaluation. Reference AETCI 26-2203 for discontinuing a course.

4.8.2. Multiple Course Package. Two or more courses submitted for concurrent evaluation (this must be submitted at the same time). One or more courses providing offsets in either instructors or student man-years for another course. All courses involved must be specified in the course price out justification and the MO cover memorandum.

4.8.3. Resources From Pricing. A decrease in instructor authorizations due to pricing are not offsets.

4.8.4. Nonallowed time. Course hours not included in manpower calculations. Do not include nonallowed time for manpower purposes from the course chart as described in AETCI 36-2203 when building the course price out. Nonallowed time for manpower purposes includes: directed study hours, outprocessing appointments, traffic safety education, commander's call, graduate evaluation, professional military education (PME), and ancillary training.

4.8.5. Supported By. A course that does not earn manpower or manpower resources are provided by another course or family grouping (see chapter 2).

4.8.6. Rank and AFSC of Instructor. Other than standard BA, must be fully justified on CEDS (see chapter 3).

4.9. Rounding Rules:

4.9.1. Course Days. A standard training day is eight hours. Total course hours are divided by the course day (eight). Nonstandard training days must be justified and approved (see AETCI 36-2203). The course chart identifies the number of nonstandard training days.

4.9.1.1. Air Force courses 20 days or less—any fraction over a whole number is rounded up.

4.9.1.2. Air Force course over 20 days—the last day must be greater than or equal to 5 hours (.625) to round up.

4.9.1.3. Interservice courses—all fractions are rounded up.

4.9.2. Instructors Earned. Once fractional instructor manpower is calculated any fraction is rounded up to the next whole number. Instructor rounding is done before determining manpower impact of a course. For interservice courses refer to the ITRO instructor rounding chart in the ITRO Procedures Manual.

4.9.3. Student Man-Year/Average Daily Student Load. Any fraction in the tenths place 0.5 or higher is rounded to next higher whole number, lower than 0.5 is rounded down. SMY/ADSL rounding is done before determining impact of a course. Also see chapter 3.

4.9.4. Instructor and SMY Rounding for Multiple Course Packages. Manpower impact on multiple course packages is accomplished after totaling individual courses, and then rounding.

Chapter 5

UPDATING MANPOWER AUTHORIZATIONS

5.1. Changes on Training Authorizations:

5.1.1. This chapter only refers to authorizations managed by HQ AETC/XPMRT. There are additional guidelines in the Manpower Data System (MDS) user manual.

5.1.2. Authorization change requests (ACRs) change data on the unit manpower document (UMD).

5.1.3. The MDS point of contact in the MO office can provide guidance on creating projects to change authorizations.

5.2. General ACR Guidelines:

5.2.1. All ACRs for HQ AETC/XPMRT must be submitted via an MDS project.

5.2.2. The rationale for the change must be fully justified to include a summary of the desired change, the reason for the change, and any impact on civilian authorizations.

5.2.3. ACRs affecting civilian positions must be coordinated through the servicing civilian personnel office and state whether or not it is an adverse action.

5.2.4. The justification should include any MAJCOM functional manager (MFM) or DP office preapproval and point of contact.

5.2.5. Security access requirement (SAR) codes must be coordinated through the base security office and a statement to this effect must also be included in the project rationale. *EXCEPTION:* Vandenberg AFB requests can be validated by the unit's security manager.

5.2.6. HQ AETC/XPMRT processing time for ACRs is 30 calendar days from receipt. This includes a 10-day processing time for the MFM coordination. Conflicts may occur as a result of an extension to the processing time or the project being returned to the submitter.

5.2.7. ACRs involving more than one MFM must be approved by all. In the event a MFM disapproves an action the project will not be processed. If the base and MFM are able to resolve the conflict the project may be resubmitted.

5.2.8. Changes in rank must be within career progression group (CPG) limits or as approved by HQ AETC/XPM and MFM on a case-by-case basis. "T" prefix authorizations for MSgt and below are exceptions to the CPG limits.

5.2.9. Requested actions should be based on mission requirements and be fully justified.

5.2.10. Authorization (manpower) related actions should be based on mission requirements. Manpower changes should not be personnel driven.

5.2.11. ACRs impacting personnel actions such as AFSC changes or adding or deleting a position will be loaded with an effective date of current quarter plus two quarters. *EXCEPTION:* Positions with a "T" prefix in a course area, civilian positions, and those with special justification.

5.2.12. An ACR processed with special justification must be precoordinated through HQ AETC/DP. The explanation for the "nonstandard" effective date must also be included in the project rationale.

5.2.13. Overhead/support authorization changes for AFSCs or grade are approved by the MFM and will conform to the AFMS.

5.3. Instructor Authorizations:

5.3.1. An authorization change in a course area must also be accompanied by an annotated copy of the course's BA register page.

5.3.2. Most technical training instructor positions carry a "T" prefix indicating their primary duty as an instructor.

5.3.3. Some authorizations carry a "K" and "J" prefix. These instructor positions are required to maintain special flight qualifications.

5.3.4. Some instructors carry a special duty identifier, for example: 8T000 and 8B000, which eliminates the need for a "T" prefix.

5.3.5. Instructors are coded under two primary program element code (PEC) suffixes (D or E). If the instructor is not in a course area, advice from HQ AETC/XPMRT on the PEC assignment may be needed.

5.3.6. Instructor authorizations for courses are allocated based on certified training plans. Additional information on obtaining instructors for new or changed courses is covered in chapters 3 and 4.

5.3.7. Training development element (TDE) authorizations are established based on Air Force standards. The standards establish normal authorizations for training management; for example, career development course (CDC) writing and course revisions. Development authorizations are variances to the standard and are approved by the HQ AETC/DOO and SGA TPM. An authorization established to develop a new course is loaded with an AFSC "T" prefix, and carries a command remarks code of DEVXXX (the actual number is assigned by HQ AETC/XPMRT). The DEV code acts as an audit trail by associating the authorization with the course being written (DEV coded positions will be justified annually.) The authorization then becomes the course instructor (if earned) when the course is activated. Any DEV coded authorization that is not utilized upon course activation is removed from the TDE.

5.4. Forms Prescribed. AETC Form 896.

5.5. Forms Adopted. AF Form 813, AF Form 1768, AFTO Form 22, and AETC Form 449.

SCOTT S. CUSTER, Brig Gen, USAF
Director of Plans and Programs

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFPD 38-2, *Manpower*
AFI 36-2230(I), *Interservice Training*
AFI 38-201, *Determining Manpower Requirements*
AETCI 36-2203, *Technical and Basic Military Training Development*
AETCI 36-2208, *Job Site Training*
Interservice Training Review Organization (ITRO) Procedures Manual
TPS Procedures Manual

Abbreviations and Acronyms

ACR—authorization change request
ADL—advanced distributed learning
ADSL—average daily student load
AEL—academic education level
AETC—Air Education and Training Command
AFI—Air Force instruction
AFMIA—Air Force Manpower Innovation Agency
AFMS—Air Force manpower standards
AFOSH—Air Force Occupational Safety and Health
AFPAM—Air Force pamphlet
AFPC—Air Force Personnel Center
AFPD—Air Force policy directive
AFS—Air Force specialty
AFSC—Air Force specialty code
AMPS—AETC Manpower Pricing System
BA—basic authorization
BMT—basic military training
BMTS—basic military training squadron
CAI—computer aided instruction
CBI—computer based instruction
CCAF—Community College of the Air Force
CDC—career development course
CE—course examination
CEDS—course evaluation data sheet
CFETP—career field education and training plan
C/L—classroom/laboratory
CME—contract manpower equivalent
CPG—career progression group
CRE—course resource estimates
CTP—course training plan
DEB—deputy executive board

DEV—developmental

DLIELC—Defense Language Institute, English Language Center

DoD—Department of Defense

DRU—direct reporting unit

DSN—defense switched network

EAID—equipment authorized in-use detail

EGS—expansion group size

EGSD—expected group size difference

FAC—functional account code

FG—family group

FOA—field operating agency

FTT—field training team

FY—fiscal year

FR—file register

HQ AETC/XPM—Headquarters, Air Education and Training Command, Manpower and Organization Division

IAAFA—Inter-American AF Academy

ICW—interactive courseware

ISD—instructional system development

ITRO—Interservice Training Review Organization

JST—job site training

MAF—man-hour availability factor

MAJCOM—major command

MDS—Manpower Data System

MEP—management engineering program

MFM—MAJCOM functional manager

MGS—maximum group size

MIR—multiple instructor requirement

MM—minimum manning

MO—manpower and organization

MSI—manpower standards implementation

MTL—military training leader or master task listing

MTT—mobile training team

NCO—noncommissioned officer

OPR—office of primary responsibility

OSC—organizational structure code

PAS—Personnel Accounting System

PCS—permanent change of station

PDS—Personnel Data System

PEC—program element code

PGS—program group size

PME—professional military education

POC—point of contact

POD—process oriented description

PTT—programmed technical training

PWF—project work file

RR—requirements register

SAR—security access requirement

SAT—student awaiting training
SIA—specialized individual assistance
SIT—student in training
SMY—student man-year
SOT—student out of training
STR—student training requirement
TDE—training development element
TDY—temporary duty
TM—training manager
TFMC—Training Flow Management Conference
TP—training plan
TPR—trained personnel requirement
TPM—training pipeline manager
TPS—Training Planning System
TRQI—training requestor quota identifier
TT—technical training
UMD—unit manpower document
U&TW—utilization and training workshops
VIP—very important person
VTC—video teleconference

Terms

Abbreviated Training Plan—A means to make minor changes to an approved course. An abbreviated training plan is used when course parameters are changed less than 20 percent but does not require a new course dash number. These changes may involve instructor increases or decreases, and must be coordinated through HQ AETC/XPMRT, and certified by the TPM prior to implementation.

ACCESS—A database management program.

Advanced Training—A formal course training toward a specialized or supervisor level AFS. Training is for selected career airman in the advanced technology of the AFS. Graduates are not awarded a new AFS.

Authorization Change Request (ACR)—Normally input as a project in the Manpower Data System that requests modification to an authorization on the UMD.

Authorization Change Notice (ACN)—A notification of ACR update.

Block of Instruction—One or more related units or modules grouped to cover major subject or task areas of a course.

Career Field Education and Training Plan (CFETP)—An Air Force publication that provides a life-cycle management tool that identifies career path education, training requirements, and core tasks for each skill level or duty position of every AFS.

Certification—An approval memorandum from the TPM stating that a training plan has been validated by manpower, and is certified by HQ AETC/DOO (or AETC/ SGA). Also identifies offsets if applicable.

Certification Official—The TPM who has primary responsibility for a CTP and issues the certification memorandum.

Classroom/Laboratory (C/L)—Time spent in a C/L environment dedicated to student achievement of course objectives. Even though instructional methodology may vary, a qualified instructor must be present during this time.

Common Hours—Hours students in one course attend another course. Used for feeder courses or piggybacked courses when entries are flowed in TPS. Common hours do not earn manpower.

Compute and Add (CA)—An authorization that is added above and beyond what is earned for a course and requires justification.

Computer Aided Instruction (CAI)—Courses where a computer program steps the student through the blocks of instruction.

Contract Training—Type I training that receive the same priority funding as Air Force-directed training. It supports initial groups of instructors, operators, which the Air Force requires for new or modified weapon systems.

Course Chart—A document that outlines the general structure and content of a course by block and unit of instruction.

Course Control Documents—Documents used to control course content and instruction. They include the training standard, course chart, and plan of instruction (POI).

Course Parameters—Course data such as course hours and program group size.

Course Support—Justified manpower used to support instructors.

Course Training Plan (CTP)—Provides the basis for planning, programming, and implementing training. When approved, it is the justification for using current resources. The CTP defines in detail a specific course or courses, the resources required, and the actions needed to acquire the resources to accomplish the training identified in the plan.

Direct man-hour—Cost associated directly with the training program, such as the instructor.

Directed Study—Time dedicated to student achievement of course objectives using self-study instructional materials. An instructor is not required to provide direct supervision to students for the period.

Expansion Group Size—The maximum number of students (maximum group size plus) that can be accommodated under wartime surge conditions (training expansion). Consider all local options available. Does not allow for washbacks.

Family Grouping—Courses with like AFSC or area of instruction, and are controlled by OSC and PAS. Instructors are cross-utilized.

File Register—Listing of all courses and their parameters that are in the database.

Group-Paced—Students progress together through the course, as a group, at the same rate. The hours listed in the course chart are averages the typical group is expected to need. Also called lock step.

Indirect Man-hour—Costs associated indirectly with the training program, such as school overhead or base support manpower, support maintenance and operation, etc.

Initial Skills Training—AFSC awarding courses.

Instructional Design—One of three planned methods (group-lock-step, group-paced, or self-paced) for students to progress through the course.

Interservice Training Review Organization (ITRO)—An organization of uniformed services established to improve the cost effectiveness of service training consistent with individual service requirements without impairing the quality of the training.

ITRO Course—Course in which curriculum is related to interservice training where services have voluntarily agreed to train together.

Job Site Training (JST)-- JST is technical training delivered to students at their base of assignment without an Air Education and Training Command (AETC) instructor physically present. JST is also referred to as type 6 formal technical training, exportable training, and distance learning. JST extends the training capabilities of AETC courses to meet specific job and equipment training needs in place of resident training. As with resident training, a type 6 course is based on a training standard, and has specific objectives that students must achieve. JST media can take the form of computer-based (CD-ROM), interactive multimedia instruction (IMI), interactive television (ITV), videotape; Internet based instruction (IBI), paper, or some combination of these. The media used for a given course will be based on a media selection analysis. JST must be scheduled, tracked, evaluated, and completion verified. JST does not include career development courses or mobile training teams. Reference AETCI 36-2208.

Lock Step Instruction—see group paced.

Major Course Change—A change that affects course content and/or course length by 20 percent or more. Will require a new course number.

Man-hour Availability Factor (MAF)—The average number of man-hours per month an assigned individual is available to do primary duties. Required man-hours are divided by the MAF times the overload factor to determine the manpower requirement.

Manpower Authorization—A funded manpower requirement.

Manpower Data System (MDS)—Database containing UMD data. Used to control additions, deletions, and changes of manpower data.

Manpower Determinant—The basic tool used to determine the minimum level of manpower required to support a function.

Manpower Requirement—The amount of manpower determined to be necessary to accomplish specified tasks and workloads.

Maximum Group Size—The maximum number of students that can be accommodated based on peacetime use of facilities and equipment, considering safety and the application of effective instructional methods. The program group size and the maximum group size will be the same. *EXCEPTION:* Initial skills courses with a HQ AETC/XPMRT approved washback computation may calculate a program group size using the maximum group size minus the washback rate from the washback computation. For courses in which the group is subdivided or where a team concept is used, the multiple instructor requirements must be identified in the manpower annex.

Minimum Group Size—The least number of students who can be trained and still satisfy course training objectives; team instructional requirements; safety requirements; and/or the cost-effective use of resources, such as impact on equipment, instructors, and energy. Except in unusual circumstances, the minimum class size will be two or more. This group size will be used to determine whether or not to cancel a particular class.

Minor Course Change—A change that does not significantly change course content and/or course length by 20 percent or more. This change does not require a new course number.

Mother Course—A course that earns instructors based on its own entries plus entries for the piggyback course. Both the mother and the piggyback have the same curriculum. The piggyback would not earn manpower (see common hours).

Multiple Instructor Requirement (MIR)—The total number of instructors required to teach a unit of instruction to one instructional group, at a specific time during the course, based on equipment, safety, or supervision.

Nonstandard Training Day—A training day consisting of more or less than eight academic hours.

Outprocessing Appointments (Other Training or Administrative Time)—Time dedicated to end-of-course appointments, and safety briefings.

Performance Test—A measurement instrument administered during the time allocated in the POI to evaluate a student's attainment of performance objectives. This test requires the student to accomplish a performance objective under controlled conditions in a formal testing mode.

Piggyback Course—A course consisting of all or a portion of another course and using the same resources. Students attending piggyback courses normally attend one or more blocks of instruction of the basic course.

Pipeline Student—A student that is funded by the Air Force, not a MAJCOM. Usually for BMT and initial skills.

Program Group Size—The number of students per group used to schedule (program) classes. The program group size, which is the basis for manpower computations, will be the same as the maximum group size, except when adjustments are required due to experienced washback and elimination rates. For new courses, when no attrition or washback data is available, the washback rate will be determined from other family-related courses. After 1 year, the course will be reviewed and the washback will be based on actual

washback and elimination rate experience. The program group size may be exceeded (to maximum group size) to reduce pretechnical training students buildup (students in-processing and awaiting training).

Requirements Register—Extract that shows number of instructors earned for each course.

Self-Paced—Individuals move through the course at varying rates within parameters established during validation and documented in the course chart (similar to group-paced except students move through the course as individuals not dependent on group times). The hours listed in the course chart are averages the typical student is expected to need.

Shift Group Limit—Maximum number of classes that can be taught in one shift, usually limited by facilities or equipment.

Student Man-Year (SMY)—Manpower resources used to compensate for lost duty time due to training (pipeline and PCS course students only). Centrally controlled by HQ USAF/XP.

Student Training Requirements (STR)—The total number of student requirements for a given course. For initial skills courses this includes the trained personnel requirements (TPR) plus additional requirements to compensate for attrition, plus all other requirements (National Guard, Reserves, other services). For supplemental and advanced courses it is the total of all requirements for a course in a given fiscal year.

Subtractive—Removes an earned authorization from the UMD based on programmatic or directed reductions. Will remain indefinitely or until funded.

Supported By—Referring to a course that doesn't earn instructors on its own. Usually seen in family grouping.

Supplemental Training—Non-AFSC awarding course. Usually accomplished to reinforce or enhance the skills of an AFS.

Training Requestor Quota Identifier (TRQI)—A four-digit personnel code that identifies the user.

Trained Personnel Requirements (TPR)—The total Air Force production requirements for a given initial skills course. It is expressed as nonprior service (NPS), prior service, retrainees, or a combination of two or more types. It does not include Air National Guard, Reserves, or other services.

Unit Manpower Document (UMD)—A detailed manpower listing reflecting the distribution of manpower allocations into a finite structure of authorizations (by work center).

Unit or Module of Instruction—A segment of instruction containing one or more closely related objectives and the supporting instructional activities.

Variance—A condition that exists that either adds to or subtracts from the core workload, or impacts the way work is performed. A variance can be either negative or positive.

Attachment 2

DIRECT (D) AND INDIRECT (I) TECHNICAL TRAINING PROCESS ORIENTED DESCRIPTION

A2.1. D Hours Workload Description (Based on Type 3 Courses):

A2.1.1. Conducts classroom or laboratory discussion, lecture, and demonstration session.

A2.1.2. Conducts performance training during equipment operation performance phase of training and field exercises.

A2.1.3. Administers written measurement test.

A2.1.4. Conducts classroom, laboratory, or field exercise measurement through observation of student performance on equipment or other course training material.

A2.1.5. Conducts graduation ceremony and student critique.

A2.2. I Hours Workload Description (Based Primarily on Type 3 Courses):

A2.2.1. Performs Instructor Support of the Course (course support):

A2.2.1.1. Drafts Course Material. Applies instructional system development (ISD) techniques and drafts input and/or proposed revision to the following course documents and training materials: specialty or course training standard, course chart, plan of instruction, training material (includes student study guide; workbook; study guide/workbook, handout; programmed text; circuit and diagram; functional diagram; and student text), written measurement device, performance measurement device, and training aid. This includes coordination with supervisor and training development section.

A2.2.1.2. Maintains Course Publication File. Files and posts numbered or interim change to course publication file (regulation, manual, technical order, digest, etc.) to ensure currency of each copy used by students while attending training.

A2.2.1.3. Prepares AFTO FORM 22, Technical Manual I Change Recommendation and Reply. Prepares an AFTO Form 22 for recommended change to the Air Force Technical Order System.

A2.2.2. Performs Supervisory Support of the Course (course support):

A2.2.2.1. Reviews and Edits Revised Course Material. Reviews and edits instructor input to revision of the following documents and training material: specialty or course training standard, course chart, plan of instruction, training material (includes student study guide; workbook; study guide/workbook, handout; programmed text; circuit and diagram; functional diagram; and student text), written measurement device, performance measurement device, and training aid.

A2.2.2.2. Drafts Inputs to Course Training Plan. Drafts inputs to course training plan for equipment list and narrative summary.

A2.2.3. Provides Course Logistic Support:

A2.2.3.1.Requisitions Equipment. Initiates action to requisition office and training equipment required in support of the course (includes research and coordination of requirement).

A2.2.3.2. Requisitions Expendable Supplies. Consolidates requests, inventories and checks stock level on-hand, performs research of supply catalogs, and requisitions expendable supplies.

A2.2.3.3. Inventories Equipment. Performs periodic and change of custodian inventories of office and training equipment. Researches equipment authorized in-use detail (EAID) listing, stock number and nomenclature items, and certifies inventory document.

A2.2.3.4. Turns In Equipment. Initiates turn-in of excess or unserviceable course, office, and training equipment.

A2.2.4. Conducts Tour of Course Area. Briefs VIP and official visitor, and accompanies them through a tour of the course area for familiarization. Includes preparation time.

A2.2.5. Prepares Recommendation for Officer, NCO, Airman, or Civilian of the Month, Quarter, or Year. Gathers data, summarizes, and drafts the recommendation.

A2.2.6. Prepares Recommendation for Instructor of the Month, Quarter, or Year. Gathers data, summarizes, and drafts the recommendation.

A2.2.7. Prepares Recommendation for Student of the Month. Gathers data, summarizes, and drafts the recommendation.

A2.2.8. Reviews Incoming Distribution. Reviews distribution for information and necessary action.

A2.2.9. Reviews Outgoing Distribution. Reviews outgoing correspondence for completeness and accuracy, and signs as required.

A2.2.10. Previews Visual or Visual Aid. Previews new visual or audiovisual aid contemplated for use in the course.

A2.2.11. Attends Meetings. Attends meeting held by the next higher level of supervision. Attends other "ad hoc" type meetings on matters pertinent to the course of instruction.

A2.2.12. Conducts Meetings. Plans, gathers material, drafts notes, and conducts meetings of all instructors and course personnel under his or her supervision, relative to matters pertinent to the course or administrative policies and procedures.

A2.2.13. Develops Budget Estimate. Prepares input for budget by researching, evaluating, coordinating, drafting, and forwarding estimates. Includes answering follow-on inquiries on estimate.

A2.2.14. Assists Local MO in Developing Manpower Data. Assists the local MO office in determining manpower impact of training; includes developing the multiple instructor requirement, shift limit determination, group size determination, and the course evaluation data sheet.

A2.2.15. Prepares Input for Training Evaluation and Occupational Survey. Develops and submits input to field evaluation survey and occupational survey.

A2.2.16. Reviews Training Evaluation Reports. Reviews training evaluation report on performance of students who previously attended the course. Drafts comment and/or recommendation.

A2.2.17. Evaluates Suggestions. Conducts investigation and prepares suggestion evaluation.

A2.2.18. Investigates Accident or Incident. Investigates ground accident or incident that occurred within the technical course. Prepares required report and associated correspondence.

A2.2.19. Prepares Waiver of Multiple Instructor Requirements. Prepares request for waiver of multiple instructor requirements.

A2.3. Performs Instructor Support to a Group (group support):

A2.3.1. Prepares Classroom for Instruction. Prepares classroom, laboratory, or field exercise environment for a group of students. Obtains required training equipment, training aid, and/or material (includes obtaining classified training material).

A2.3.2. Conducts Specialized Individual Assistance (SIA). Conducts SIA required by a group of students to include lecture, demonstration, and performance.

A2.3.3. Conducts Student Retest. Conducts student retest outside normal day of instruction.

A2.3.4. Completes Test Data Form. Posts test data for each group tested (during other than classroom time).

A2.3.5. Reviews Subject Material Prior to Start of Day's Instruction. Reviews lesson plan subject material before the beginning of instruction each day for familiarization with subject matter to be taught.

A2.4. Performs Supervisory Support to a Group (group support):

A2.4.1. Processes New Class. Processes a new group of students before immediate class entry.

A2.4.2. Coordinates Scheduled Student Entries. Coordinates and schedules student entries in a group of students with concerned technical training activities.

A2.4.3. Conducts Class Orientation. Acquaints a new group with course, military, safety, and other pertinent policies and practices, which are of concern to students.

A2.4.4. Conducts Classroom Evaluation. Observes and evaluates classroom instruction and procedures with regard to quality of instruction administered to a group of students and compliance with technical training policies. Observes and evaluates classroom for cleanliness, safety, and equipment use.

A2.4.5. Prepares Report. Gathers data, summarizes, and drafts all required administrative and training reports associated with a group of students. This includes student awaiting training (SAT), student out of training (SOT), and student in training (SIT).

A2.4.6. Reviews Test Data. Reviews test data and annotate test data form.

A2.4.7. Reviews Pregraduation Roster. Reviews pregraduation roster to ensure correct student data.

A2.4.8. Makes Honor Graduate Selection. Manages process of selecting students for honor graduate program.

A2.4.9. Conducts Graduation Ceremony. Schedules, coordinates, attends, and participates in the graduation ceremony for a group of students.

A2.4.10. Reviews and Summarizes Student Critique. Reviews and summarizes course critiques prepared by each group of students.

A2.4.11. Maintains Test Control. Maintains test inventory form, issues and receipts for controlled test, and destroys obsolete test material.

A2.4.12. Maintains Status Chart. Posts changes to status chart reflecting number of groups and students in training and class progression (includes gathering and summarizing data).

A2.4.13. Monitors Specialized Individual Assistance (SIA). Schedules and ensures an adequate SIA program is conducted.

A2.5. Performs Instructor Support for Each Student (<u>Student Support</u>):

A2.5.1. Initiates Student Record. Initiates student record for each new student.

A2.5.2. Posts Required Entry in Student Record. Makes entry on student record or training form for each student. Includes all required entries.

A2.5.3. Conducts Academic Counseling. Counsels student on academic performance. Completes academic counseling record form.

A2.5.4. Conducts Nonacademic Counseling. Counsels students on military conduct, morale, or discipline matters while attending course. Completes record of individual counseling form.

A2.5.5. Attends Faculty Board Meeting. Attends faculty board meeting to answer questions about students appearing for board action.

A2.5.6. Reviews and Grades Homework Project. Reviews and grades homework projects assigned to the student (during other than classroom time).

A2.6. Performs Supervisory Support for Each Student (Student Support):

A2.6.1. Prepares Officer Training Report. Evaluates officer student and completes evaluation form (does not include typing), officer course only.

A2.6.2. Prepares Foreign Student Evaluation. Completes a foreign student evaluation form.

A2.6.3. Prepares Training Standard Deviation Memorandum. Prepares training standard deviation memorandum to document training deficiency (does not include typing).

A2.6.4. Reviews Student News Release. Reviews the news release prepared by the student.

A2.6.5. Orients Late Entry Student. Orients a late entry student with course military, safety, and other pertinent policies and practices of concern to the student.

A2.6.6. Reviews Student Record. Reviews a student's record for progression and required entries before counseling action and prior to graduation.

A2.6.7. Processes Student Excuse for Absence from Class. Determines circumstances of absence and processes student absentee form for each student absent from class.

A2.6.8. Conducts Academic Counseling. Reviews previous counseling records and results of any followup action taken. Counsels student on academic performance. Completes academic counseling record.

A2.6.9. Conducts Nonacademic Counseling. Reviews previous counseling records and results of any followup action taken. Counsels student on military conduct, morale, or discipline matters while attending course. Completes record of individual counseling form.

A2.6.10. Initiates Washback Action. Takes administrative action to washback a student from a technical training course.

A2.6.11. Initiates Elimination Action. Takes administrative action and drafts required recommendation to eliminate a student from a technical training course.

A2.6.12. Initiates Proficiency Advancement Action. Takes administrative actions and drafts required recommendation to advance a student to a block of instruction due to demonstrated proficiency.

A2.6.13. Posts Required Entry in Student Record. Makes entry on student record-of-training form for each student. Includes all required entries.

A2.6.14. Attends Faculty Board Meeting. Attends the faculty board meeting to determine disposition of a student.

A2.6.15. Completes Training Quality Reports. Completes training quality report received on a student identified as receiving deficient training.

A2.6.16. Answers Individual Student Critique. Reviews student critique and documents response.

A2.7. Performs Instructor Support for Each Shift (<u>Shift Support</u>):

A2.7.1. Supervises Janitorial Detail. Gives instruction to a janitorial detail, supervises the performance of cleanup tasks, and inspects completed work during a specified shift of instruction (during other than classroom/laboratory instruction time).

A2.7.2. Conducts On-the-Job Training (OJT). Conducts OJT session and assists OJT trainee in achieving the required level of proficiency. Plan OJT session (during other than classroom/laboratory instruction time).

A2.8. Performs Supervisor Support for Each Shift (<u>Shift Support</u>):

A2.8.1. Attends Meetings. Attends meetings conducted by the next higher level of supervision (intermediate, branch, or division) on matters, which pertain to the course supervision.

A2.8.2. Conducts Instructor Meeting. Schedules, plans agenda, collects notes, and conducts a meeting of assigned personnel.

A2.8.3. Conducts Security Check of Course Area. Tours course area to ensure security of classified material and course equipment. Completes required form and secures windows and exits.

A2.8.4. Monitors OJT. Schedules and assigns OJT responsibilities to an instructor and schedules OJT sessions.

A2.8.5. Coordinates Maintenance Activity. Coordinates matters relative to maintenance of course training equipment. Discusses maintenance requirement with course personnel and maintenance personnel. Completes required forms or documentation. Tracks maintenance completion.

A2.8.6. Reviews Technical Publications, Directives, Manuals, Office Instructions, and Technical Orders. Reviews for cognizance of new material, periodic familiarization, or specific research.

A2.8.7. Drafts Miscellaneous Correspondence. Drafts internal correspondence.

A2.8.8. Prepares Requests for Expendable Supplies. Inventories stock level and drafts required supply document incident to requisition of expendable supplies.

A2.8.9. Inspects Course Area. Performs tour and inspects course area for cleanliness, compliance with safety procedures, and utilization of equipment.

A2.8.10. Conducts Inservice Training. Conducts inservice training classes for course personnel. Plans inservice training sessions.

A2.9. Performs Instructor Support (<u>Instructor Support</u>):

A2.9.1. Attends Meetings. Attends meetings conducted by supervisory personnel on matters that pertain to course of instruction policies and procedures.

A2.9.2. Cross-Trains to Another Block of Instruction. Cross-trains to other blocks of instruction within the course or family group. Studies course training material for block to which cross training. Attends and observes instruction given by another instructor in block to which cross training. Prepares initial lesson plan.

A2.9.3. Revises Lesson Plan. Revises personalized lesson plan or annotates standardized lesson plan.

A2.9.4. Attends Formal Inservice Training. Attends formalized courses designed to maintain and advance instructor proficiency.

A2.9.5. Performs AFSC Upgrade and Proficiency Training:

A2.9.5.1. Attends OJT Class. Attends OJT class for AFSC upgrade and proficiency training (excludes cross-training to other block of instruction).

A2.9.5.2. Performs TDY for Purpose of Maintaining Proficiency in AFS. Travels to, and attends on a TDY status, a training course to pursue proficiency in AFS. Includes factory-training courses for maintaining proficiency in AFS.

A2.9.5.3. Takes Annual Proficiency Test. Takes course or block written measurement test to determine instructor technical proficiency.

A2.10. Performs Supervisory Support of Each Instructor (Instructor Support):

A2.10.1. Rates Instructor. Rates instructor performance (officer evaluation report [OER], airman performance report [APR], civilian rating of record [CRR]) annually, upon termination of assignment, or change of reporting official. Prepares initial and final drafts of required rating form and performance feedbacks.

A2.10.2. Indorses Rating Report. Indorses an instructor's rating report (OER, APR, CPR) annually, upon termination of assignment, or change of reporting official. Includes time to prepare initial and final drafts of endorsement comments and time to discuss rating with reporting official.

A2.10.3. Conducts Review of Instructor Lesson Plan. Accomplishes the mandatory review of each instructor's lesson plan. Discusses quality or makes recommendation to instructor. Includes initial lesson plan review for first tour instructors.

A2.10.4. Observes and Evaluates Instructor, Instructor Supervisor, or Master Instructor. Evaluates each instructor, instructor supervisor, or master instructor through classroom observation with regards to instructional methods and techniques, and adherence to prescribed plan of instruction. Makes notes and completes required evaluation forms.

A2.10.5. Monitors Sponsor Program. Appoints a sponsor for an instructor who is to be assigned to the course.

A2.10.6. Interviews and Orients New Instructors. Interviews and orients each newly assigned instructor on course area, base facilities, and base and course policies. Briefs and acquaints each newly assigned instructor with duties and performance standards. Introduces each newly assigned instructor to workers with whom he or she will be immediately associated.

A2.10.7. Processes Leave Requests. Reviews and approves or disapproves an instructor's request for leave. Discusses leave request with instructor and reviews schedule.

A2.10.8. Maintains Instructor Training Record. Maintains and reviews instructor training record. Reviews record or makes entry in instructor record.

A2.10.9. Maintains Civilian Instructor Personnel Record. Maintains civilian personnel records for all civilian instructors.

A2.10.10. Administers Annual Proficiency Test. Administers and evaluates results of course or block written measurement test.

A2.10.11. Prepares Recommendation for Master Instructor Award. Reviews instructor record and prepares recommendation for master instructor award.

A2.10.12. Nominates Personnel for Award. Drafts recommendation for military or civilian award.

A2.10.13. Counsels Instructors. Counsels each instructor relative to performance, method of instruction, military conduct, or other morale and discipline matters. Completes counseling form when required.

A2.10.14. Assists First Tour Instructor with Initial Lesson Plan Development. Provides assistance to first tour instructor for initial lesson plan preparation.

A2.10.15. Coordinates and Confirms Time and Attendance Cards. Coordinates and confirms civilian instructor time and attendance information.

A2.10.16. Provides Supervisory Assistance to Instructor Cross-Training to Other Block of Instruction. Briefs instructor on new block material, determines instructor proficiency in new block, and provides technical assistance during the training period.

A2.10.17. Prepares Required Schedule. Plans and schedules availability and utilization of course personnel. Schedules instructor for military, instructor and inservice training.

Attachment 3

BASIC TECHNICAL TRAINING MANPOWER MODEL DEVELOPMENT

A3.1.Technical Training Model Development:

A3.1.1. One of the important aspects of developing manpower standards for type 3 technical training courses is understanding the multivariate equation. This section portrays how the equation was developed. A complete listing of symbols used throughout this section is contained in paragraph A3.2. Those who wish to hit the high spots need only understand the symbols: Y, G, L, a, b_1, and b_2. Those who wish to understand more fully the developments add to those symbols: A, B, C, D, E, and F. And, for those who wish to analyze the presentation for validity, a thorough understanding of all terms is required.

A3.1.2. Resident training course manpower standard is used to determine manpower requirements up to, but not including, branch/division overhead. All courses have basically the same work classification, but, because of variations in subject matter taught, equipment and facilities used, and fluctuating student entries, each course must be treated as a separate manpower standard. Work classifications have been categorized as follows:

Direct	Academic instruction (H_{ai}) includes total academic instructor hours to teach one group for the course duration and must be converted to monthly hours. To make the conversion, we determine the relationship of the course length in days to the average days per month, then adjust the (H_{ai}) by that relationship. Since all courses observe national holidays the normal 20.91 days per month is used. Monthly academic instructor hours (B_i) are computed by solving: $$B_i = \frac{\text{Classroom / Laboratory Instructor Hours x 20.91}}{\text{Course length in days}}$$
Indirect	Required activities in support of academic instruction are categorized as course support (A), group support (C), student support (D), shift support (E), and instructor support (F). Each category of support is further defined for the instructor (M_i) and supervisory (M_s) which includes the instructor supervisor and (or) intermediate supervisor. These support categories are at section C of this attachment.

A3.1.3. Each requirement has been defined and may now derive the multivariate equation.

The Multivariate Equation	
The manpower requirement (M_t)(instructor and supervisory) for the various support categories plus the academic instructor time.	$$M_t = \frac{A_t + C_t\,(G) + D_t\,(L) + E_t\,(S) + F_t\,(M_i) + B_i\,(G)}{\text{MAF}}$$
Only two of the workload factors are programmable: group load (G) and student load (L).	
To allow the manpower standard equation to be compatible with the programmable workload factors, the equation is reduced by eliminating the shift (S) and instructor (M_i) workload factors.	
During the original development of the manpower standard equation, a coordinated decision between HQ ATC/TT and XP resulted in redefining the shift variable in terms of fixed cost (A_t) and group (b_1). It was agreed that half of the shift support (E_t) will be included in the fixed value (a) and half will be included in the total group support (b_1).	

Since the instructor category by definition is personnel generated time, this category will be algebraically prorated to the a, b$_1$, and the b$_2$ coefficients.	
The final manpower standard takes the form of: M$_t$ = a + b$_1$ (G) + b$_2$ (L), and is derived as follows:	a = (A$_t$ + A$_i$ (F$_t$ / (MAF - F$_i$)) + ((E$_t$ + (F$_t$ / (MAF − F$_i$) E$_i$))) .5 / MAF b$_1$ = B$_i$ (1 + F$_t$ / (MAF − F$_i$)) + C$_t$ + ((F$_t$ / (MAF − F$_i$)) C$_i$) + (E$_t$ + (F$_t$ / (MAF − F$_i$))E$_i$)) .5 / SL) / MAF b$_2$ = D$_t$ + ((F$_t$ / (MAF − F$_i$)) D$_i$) / MAF L = (TPR x Course Length in Days) / 246 G = L / PGS *NOTE:* A Christmas factor of 0.9804 must be applied to a, b$_1$, and b$_2$ values to provide the final equation.

A3.2. Technical Training Manpower Equation Symbols:

Subscripts:	**t**	total
	i	course instructor
	s	course supervisory requirements

a	Constant	Constant manpower requirements per course. (Course support—includes instructor and supervisory support. Predetermined variable that are multiplied against the course length). Represents that part of the total course manpower requirement that does not increase or decrease with change in workload volume.
A$_i$	Constant	Monthly instructor support hours per course and depend on the course length in hours.
A$_s$	Constant	Monthly intermediate supervisor support hours allowed per course and depend on course length in hours.
A$_t$	Constant	Total monthly support hours required for the course.
b$_1$	Coefficient	Total manpower required per group in session. (Predetermined variables for group, instructor and shift support that are factored against class/lab instructor hours. Different variables are used for basic and supplemental courses.) This coefficient represents that part of the total course manpower requirement that increases or decreases at a constant rate as the number of programmed groups in session increases or decreases.
b$_2$	Coefficient	Total manpower required per student in session. (Predetermined variables for student, instructor, and shift support that are factored against instructor man hour availability. Different variables are used for basic and supplemental courses.) This coefficient represents that part of the total course level manpower requirement that increases or decreases at a constant rate as the number of students in session increases or decreases.
B$_i$	Coefficient	Monthly classroom and/or lab instructor hours required per entry group in session. Represents the monthly man-hours required per entry group in session by an instructor (supervisors sometimes instruct) in the classroom or lab performing duties described for academic time. This monthly time increases or decreases at a constant rate as the number of groups in session increases or decreases.
C$_i$	Coefficient	Monthly instructor support hours per group in session.
C$_s$	Coefficient	Monthly supervisory support hours per group in session.
C$_t$	Coefficient	Monthly support hours allowed per group in session. This coefficient represents that part of the monthly course support man-hours that increases or decreases at a constant rate as the number of groups in session increases or decreases
D$_i$	Coefficient	Monthly instructor support hours per student.
D$_s$	Coefficient	Monthly supervisory support hours per student.
D$_t$	Coefficient	Monthly support hours allowed per student. Represents that part of the total monthly course support man-hours that increases or decreases at a constant rate as the number of students in session increases or decreases.

E_i	Coefficient	Instructor monthly support hours per shift.
E_s	Coefficient	Supervisory monthly support hours per shift.
E_t	Coefficient	Monthly support hours allowed per shift. Represents that part of the total monthly course support man-hours that increases or decreases at a constant rate as the number of shifts required increases or decreases.
F_i	Coefficient	Monthly instructor support hours per instructor authorized (M_i)
F_s	Coefficient	Monthly supervisory support hours per instructor authorized (M_i)
F_t	Coefficient	Monthly support hours allowed per instructor authorized (M_i). Represents that part of the total monthly support man-hours that increases or decreases at a constant rate as the number of instructors authorized (M_i) increases or decreases.
G	Variable	Programmed number of groups in session (group load) (ADSL divided by PGS).
H_{ai}	Variable	Total academic instructor hours required for the course duration.
L	Variable	Programmed number of students in session (student load) (annual student entries multiplied by course length in days divided by 246 training days).
LE	Variable	Course length in hours (academic hours).
M_i	Variable	Manpower required for instructor workload, based on the approved monthly man-hour availability rate.
M_s	Variable	Manpower required for intermediate supervisor workload based on the approved monthly man-hour availability rate.
M_t	Variable	Total manpower required for the course up to but excluding branch management and administration.
S	Variable	Number of shifts required to operate the course.
SL	Variable	Maximum number of groups limited to one shift by equipment and facilities.
Y	Coefficient	Total manpower required for the course.

A3.3. Technical Training Standard Indirect Hours:

Basic/Initial Skills Courses

FOR AIRMAN INITIAL SKILLS COURSES (ABR, ABP, ALR, AQR & ATR)(*see note*)					
	ALLOWED HOURS PER MONTH PER				
Work Unit Classification Level of Work	COURSE	GROUP	STUDENT	SHIFT	INSTRUCTOR
Instructor	Ai = .1696 (LE)	Ci = 17.33	Di = .4974	Ei = 6.414	Fi = 14.21
Supervisory	As = 26.97 + .06374 (LE)	Cs = 5.81	Ds = .4072	Es = 24.78	Fs = 1.401
TOTAL	At = 26.97 + .2333 (LE)	Ct = 23.14	Dt = .9046	Et = 31.19	Ft = 15.61

NOTE: Standard items developed through correlation and regression analysis and average unit times using 35 measurement inputs (all times are monthly).

Supplemental and Officer Courses

FOR AIRMAN SKILL PROGRESSION AND OFFICER COURSES (AAR, AIR AXR & ALL OFFICER COURSES)(*see note*)					
	ALLOWED HOURS PER MONTH PER				
Work Unit Classification / Level of Work	COURSE	GROUP	STUDENT	SHIFT	INSTRUCTOR
Instructor	$A_i = .1863$ (LE)	$C_i = 15.47$	$D_i = .3191$	$E_i = 5.130$	$F_i = 15.39$
Supervisory	$A_s = 13.91 + .06961$ (LE)	$C_s = 8.076$	$D_s = .5370$	$E_s = 18.37$	$F_s = 1.254$
TOTAL	$A_t = 13.91 + .2559$ (LE)	$C_t = 23.55$	$D_t = .8561$	$E_t = 23.50$	$F_t = 16.64$

NOTE: Standard items developed through correlation and regression analysis and average unit times using 66 measurement inputs (all times are monthly).

Attachment 4

CTP REQUIRED DOCUMENTS

A4.1. Sample MO Office Cover Memorandum.

                                                                              (Date)

MEMORANDUM FOR HQ AETC/XPMRT

FROM: (MO submitting)

SUBJECT: Course Number(s) and Title(s)

1. The attached approved (abbreviated training plan, training plan, draft annex) is forwarded for appropriate action. Course number replaces course number (or will use offsets provided by course number, or needs offsets provided from command, or doesn't need offsets such as supported by course number).

2. The MO office POC for this action is Jane Doe, DSN XXX-XXXX.

                                        (signed by MO Chief or other appropriate person)

cc: HQ AETC/ DOO_

NOTE: Each training plan submitted should have its own cover memorandum. Training plans sharing offsets should be submitted at the same time and the cover memorandum should reference both number and explain what is happening.

A4.2. Sample Type 3 Price Out Sheet.

<div style="border:1px solid">

COURSE PRICE OUT

(**Peacetime Course Manpower Standard Data & Pricing Record)**
Date Priced: 03-Oct-00

INSTLN: KEESLER AFB   **COURSE ID:** E3ABR1A431 040
  UNIT: 332 TRG SQ   **TITLE:** AIRBORNE WARNING COMMAND AND
                                                         CONTROL SYSTEMS APPRENTICE

FAC/OSC
FAC: 3744AI   **OSC:** UNDC   **Standard Type: Initial Skills**

OLD		**NEW**
318	**CLASSROOM/LAB INSTRUCTOR HOURS**	318
40	**COURSE LENGTH - DAYS**	40
318	**COURSE LENGTH - HOURS**	318
1	**SHIFT GROUP LIMIT**	1
6	**PROGRAM GROUP SIZE**	6
70	**TOTAL PROGRAMMED ENTRIES**	70
68	**AIR FORCE STUDENT PIPELINE**	68
166.2345	**MONTHLY C/L INSTR HOURS (Bi)**	166.2345

OTHER PARAMETERS

INSTRUCTIONAL DESIGN	**WASHBACK**	**MIN MAN**	**MIN**	**MAX**	**EXP**
	0	0	4	6	0

JUSTIFICATION/COMMENTS/RECOMMENDATIONS
THIS COURSE REPLACES COURSE E3ABR1A431-039. REQUEST BA BE COPIED FROM
 -039. THIS IS A FINAL STANDARD. COURSE PARAMETER CHANGES RESULT IN
AN OVERALL MANPOWER IMPACT OF -1 INSTRUCTOR. REQUEST OFFSET GO TO
COURSE E3ABR2A451-003 (CTP SUBMITTED SIMULTANEOUSLY).

COURSE STANDARD DATA

Override	**OLD**		**NEW**	**Override**
	0.7372	**EQUATION -A- VALUE**	0.7372	
	1.3485	**EQUATION -B1- VALUE**	1.3485	
	0.005746	**EQUATION -B2- VALUE**	0.005746	
	1.9	**AVERAGE GROUP LOAD**	1.9	
	11.382	**ADSL (TOTAL)**	11.382	
	11.057	**ADSL (AF PIPELINE)**	11.057	
4	3.365	**INSTRUCTOR REQUIREMENT**	3.365	4
		NET INSTRUCTOR IMPACT	**0**	

COORDINATION

DATE: **MANPOWER OFFICER/REPR:**
DATE: **SQUADRON CMDR/REPR:**
                                ANNEX NUMBER:

</div>

A4.3. Sample Type 4 Course Manpower Annex.

<div align="center">

TYPE 4 COURSE MANPOWER ANNEX

</div>

1. Course Data:
      a.   Number:
      b.   Title:
      c.   Length in Weeks:
      d.   Status:

2.   FAC:

3.   OSC:

4.   AFSC/Title:

5. Group Sizes: **Maximum**   **Programmed**   **Minimum**   **Expansion**

6. Family Grouping:

7.   Programmed Entries:

8.   PTT Requirements Date:

9.   Manpower Impact:
      a.   Group Data Computations:
      (1) TPR:
      (2) Average Group Load:
      b.   Instructor Requirement:

10. Resource Availability:
      a.   PTT Requirement Data:
      (1) Current Whole Manpower for OSC:
      (2) Fractional Manpower Total for OSC:
      (3) Current Fractional Manpower for Subject Course:
      b.   Instructor Requirements
      c.   Subtotal [10a(2) – 10a(3) + 10b]
      d.   Impact:

---

11. Remarks:

Date:	Manpower Chief/Rep
Date:	Squadron Commander/Rep

A4.4. Sample Type 5 Course Manpower Annex.

TYPE 5 COURSE MANPOWER ANNEX

Enter data in nonshaded areas only

Course Title:	Physician Assistant (Phase I)
Course Number:	J5OQA42G1-000
Course Installation Location:	Ft Sam Houston, TX

CURRENT   **PROPOSED**

	CURRENT		PROPOSED
AFSC			T042G1
Parent Squadron PAS			FJPH
Parent Squadron OSC			XWB
Air Force Pipeline Entries [Note 1]			30
Total Air Force Entries			30
Course Length (class hours)			2000
Course Length (Days)		250	

ADSL = (Course Length (Days) x Entries) / 246
(use 246 for both ITRO and TT)

Pipeline ADSL (student man-years)	30.00
Total ADSL	30.49
Rounded SMY Impact [Note 2]	0

NOTES:
1. For courses over 100 days in length, enter all Air Force Entries as 'Air Force Pipeline Entries'
2. Student man-years round up at 0.5.
 .

Remarks

  Instructors are earned through the ITRO instructor standard and billed by the Army to the Air Force. There is a subtractive to the BA because HQ AETC/SGAC does not fund one instructor authorization. The detachment commander also functions as an instructor. The training manager provides changes, as well as FY01 program entries for this training plan. TPS is being used as the source document for current data.

COORDINATION

Manpower

             Date: _____

  Manpower Chief/Representative: _____

Training Unit

             Date: _____

 Squadron Commander/Representative: _____

A4.5. Sample Type 6 Baseline Data and Pricing Record.

<table>
<tr>
<td colspan="2" align="center">TYPE 6
COURSE MANPOWER BASELINE DATA
& PRICING RECORD</td>
</tr>
<tr>
<td valign="top">

COURSE NUMBER: L6AGU3P071-000

COURSE TITLE: Information Security

WORK CENTER FAC: 3794AE

WORK CENTER OSC: UWAV

FAMILY GROUPED COURSES: N/A

MINIMUM MANPOWER: No

GROUP/SELF PACED: Self-paced

EQUIPMENT: All necessary equipment is available.

MINIMUM CLASS SIZE: N/A

MAXIMUM CLASS SIZE: N/A

EXPANSION CLASS SIZE: N/A

INSTRUCTORS REQUIRED: 3

AUTHORIZED AFSC & GRADE:
T031P3-Capt
T3P071-TSgt
T3P051 SrA

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JUSTIFICATION: New type 6 course developed and managed via distance learning to train security forces personnel in the skills and knowledge required to operate and manage an AF information security program.

FISCAL YEAR/TRAINED PERSONNEL REQUIREMENT (TPR): FY 01: 1611

OLD COURSE LENGTH (DAYS): N/A

OLD COURSE LENGTH (ACADEMIC HOURS): N/A

OLD COURSE LENGTH (INSTRUCTOR HOURS): N/A

OLD PROGRAMMED GROUP SIZE: N/A

OLD SHIFT LIMIT (GROUPS): N/A

NEW COURSE LENGTH (DAYS): 10

NEW COURSE LENGTH (ACADEMIC HOURS): 80

NEW COURSE LENGTH (INSTRUCTOR HOURS): N/A

NEW PROGRAMMED GROUP SIZE: N/A

NEW SHIFT LIMIT (GROUPS): N/A

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REMARKS:

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</tr>
<tr>
<td>Date:</td>
<td>Manpower Chief/Rep</td>
</tr>
<tr>
<td>Date:</td>
<td>Squadron Commander/Rep</td>
</tr>
</table>

A4.6. Sample ITRO Pricing Record. Shaded areas calculate, please fill in non-shaded only.

SECTION I COURSE DATA   DATE:
                                                            OPTION:
                               COURSE #: **J3ATR4Y011-000**
                               TAUGHT AT: **SHEPPARD**
COURSE TITLE:

PROGRAMMED ANNUAL INPUT:		% OF INPUT		
USAF (PIPELINE)	270			
USAF (TOTAL)	322	23.76%	COURSE LENGTH (CALENDAR DAYS):	51.42
USA	388	28.63%	COURSE LENGTH (TRNG DAYS):	34.73
USN	645	47.60%	COURSE LENGTH (WKS + .4 PROCESSING):	7.35
USMC	0	0.00%	TOTAL SYLLABUS HOURS:	277.81
USCG	0	0.00%	PROGRAMMED # CLASSES/YR:	48.39
TOTAL	1355 100.00%	ROUNDED ITERATIONS:	49.00	

SECTION II CURRICULUM BREAK OUT

TRAINING SITUATION	PROGRAMMED CLASS SIZE		MAX /RATIO	=	INSTRUCTORS REQUIRED		x	SYLLABUS HOURS	=	INSTRUCTOR MANHOURS
NON-ACADEMIC	0.00	0.00	:1		0.00		0.00		0.00	
LECTURE	28.00		28.00	:1	1.00			158.50		158.50
LAB	28.00		14.00	:1	2.00			10.00		20.00
LAB	28.00		9.33	:1	3.00			2.00		6.00
LAB	28.00		7.00	:1	4.00			7.00		28.00
LAB	28.00		5.60	:1	5.00			5.00		25.00
LAB	28.00		4.67	:1	6.00			55.50		332.76
LAB	28.00		3.50	:1	8.00			4.00		32.00
LAB	28.00		2.33	:1	12.02			24.00		288.41
LAB	28.00		28.00	:1	1.00			9.69		9.69
LAB	28.00		14.00	:1	2.00			2.13		4.25
	0.00		0.00	:1	0.00			0.00		0.00
	0.00		0.00	:1	0.00			0.00		0.00
			TOTAL INSTRUCTOR MANHOURS/CLASS:					277.81		904.62
			TPS Equivalent:					Class HRS		Instructor HRS

SECTION III INSTRUCTOR COMPUTATION

TOTAL INSTRUCTOR HOURS PER CLASS x PROGRAMMED # OF CLASSES = ANNUAL INSTRUCTOR CONTACT HOURS	44326.18
ANNUAL INSTRUCTOR CONTACT HOURS x 1.26 (SUPERVISION, PREPARATION AND RELATED DUTIES) = ANNUAL INSTRUCTOR HOURS	55850.99
ANNUAL INSTRUCTOR HOURS / 12 = MONTHLY INSTRUCTOR HOURS	4654.25
MONTHLY INSTRUCTOR HOURS / 145 = INSTRUCTORS REQUIRED	32.10
ROUNDED MANPOWER REQUIREMENTS =	32.00

SECTION IV INSTRUCTOR REQUIREMENTS BY SERVICE

USA	USN	USMC	USAF	USCG	TOTAL
9.16	15.23	0.00	7.60	0.00	32.00
9	**15**	**0**	**8**	**0**	**32**

AVERAGE DAILY STUDENT LOADS (ADSL INCLUDES .4 WEEKS FOR IN/OUT PROCESSING)

58	95	0	48	0	201

AF PIPELINE: 40

NOTE: The ITRO rounding table for instructors required is used at the total rounded manpower required level only and not used to determine rounded instructor requirements for each Service.

A4.7. Explanation of Course Evaluation Data Sheet:

Course Evaluation Data
Course ID #
Course Title

1. Group Size Justification: Group sizes are identified as maximum, program, and minimum. Additionally, an expansion group size is used to determine wartime course requirements. Since course manpower standards state requirements for one group of students in session, it is important that each group size be properly stated and justified so that everyone will understand group sizes as they apply to manpower, proper management of student flow, and optimizing all resources. The local MO and school, preferably the training manager, will jointly determine the maximum group size (MGS) with full written justification based primarily on classroom and/or equipment constraints.

a. Expansion Group Size (EGS): The maximum number of students (maximum group size plus) that can be accommodated under wartime surge conditions (training expansion). Consider all local options available, but do not allow for washbacks. This group size is to be used for wartime planning purposes only, and will be based upon wartime course requirements.

b. Maximum Group Size (MGS): The maximum number of students that can be accommodated based on peacetime use of facilities, equipment, safety, and instructional method.

c. Program Group Size (PGS): The number of students per group used to schedule (program) classes. Unless there is adequate justification, this will be the same as the maximum group size. Justification must include a detailed explanation of how using the maximum group size would lend to a degradation of training quality. The justification should address washback rates (providing seats for washbacks), and other impacts (reductions/increases), versus the cost of student ineffective time. If the group size is reduced due to washbacks, ensure computations for the washback is provided in the manpower annex (reference Attachment 5). When group size is reduced because of equipment constraints, investigate options, for example, Fast Pay Back Capitol Investment (FASCAP). A program group size smaller than maximum will apply exclusively to initial skills courses. The PGS will be the basis for manpower computations.

d. Minimum Group Size (MnGS): The least number of students required to meet course-training objectives due to team instructional requirements or safety consideration. This group size will be used to identify a projected class that should be considered for cancellation, for example, four. This is the minimum number of students that can be trained while maintaining an effective use of manpower, facilities, and resources. State whether this group size will/will not eliminate the need for an MIR.

2. Shift Group Limit: The maximum number of groups that can be accommodated on a single shift, limited by facilities and equipment. Since other courses may use the same equipment or facilities on each shift, it is important to state the number of groups properly.

3. Washbacks: Include documentation for washbacks. If washback calculations are done, then state where the calculation sheets are located in the training package.

4. Root Basic Authorization: State the actions requested for the basic authorization. Does a standard or nonstandard BA need to be loaded for the course or should the BA be copied from the replacement course? This is also called rolling over the BA from one course to another. When you request a standard BA specify

the AFSC. If you are asking for a nonstandard BA, then include justification for why it is needed and a paper copy of a BA with pen and ink changes reflecting what is being requested.

5. ITRO Status: State whether this is an ITRO (consolidated or collocated), a DoD executive agent or a quota course. If it has other services entries and has gone through a study, it is an ITRO (consolidated or collocated) course. If consolidation has been mandated by a DoD agency or JCS, the course is a DoD EA course. If it has other services entries and does not meet any of the criteria above, it is a quota course.

6. CCAF Accredited: State yes or no. If yes attach memorandum.

7. Other Information: Any special requests, data, or instructions related to the course in question.

8. Minimum Manning Requirements: Minimum manpower is provided to ensure sufficient instructors are available when: (1) a course cannot be family grouped; or (2) pricing of the course could earn less than the multiple-instructor requirement. If minimum manpower is indicated, provide complete justification. The minimum manpower is based on supporting the program group size.

9. Multiple Instructor Requirements (MIR): Classroom and/or laboratory hours that requires more than one instructor to conduct the training specified in a plan of instruction. Usually this occurs when the group must be subdivided due to equipment, facility, or safety limitations/requirements. Justify safety requirements by referencing applicable AF or AETC directives, and obtain a memorandum from the ground safety office citing the applicable OSHA standard. MIRs are always based on the maximum group size. Justifications containing generalities will not be accepted; justification must be specific (include diagrams or graphics for clearer understanding). The information in the MIR justification must also match data reported in any other charts, the AETC Form 896, or listings on course/block hours and numbers of instructors needed.

A4.8. Sample Course Evaluation Data Sheet.

Course Evaluation Data
T3ABR3U031A-001
Maintenance of Manpower Records

1. Group Size Justification:

a. <u>Expansion Group Size (EGS):</u> Six is the maximum number of students that can be accommodated under wartime surge conditions due to equipment limitations.

b. <u>Maximum Group Size (MGS):</u> Six is the maximum number of students that can be accommodated. The course is limited by the classroom design of three emulator bays, which can be used to train two students each.

c. <u>Program Group Size (PGS):</u> Six.

d. <u>Minimum Group Size (MnGS):</u> Two. This group size does not eliminate the MIR.

2. Shift Group Limit: One.

3. Washbacks: Zero.

4. Root Basic Authorization: Roll BA from course T3ABR3U031-000.

5. ITRO Status: N/A

6. CCAF Accredited: No.

7. Other Information: This course replaces T3ABR3U031-000.

8. Minimum Manning Requirements: Two. Two instructors are needed at all times for a simulator to be operated.

9. Multiple Instructor Requirements (MIR):

Block 1, Unit 7
Instructors required: Six.
Type of Instruction: Performance evaluation.

10. Hours Required: 39. In order to train at the maximum group size of six students, all three emulator bays must be operated. Six instructors (two instructors per student) are required to adequately evaluate these six students on the assigned operation and associated procedures. Due to the complexity of console operations, each student is individually evaluated. Each action the student makes must be closely monitored to ensure no mistakes are made. Six instructors are paired on three emulator bays. Each emulator bay will consist of two instructors and two students. One instructor (per emulator bay) will evaluate students' response while simultaneously supporting them as a contractor, commander, reorganizational engineer, and/or consultant. The second instructor (per emulator bay) will support them as a physically separated resource engineer (for

any external agencies that the student may require). They will also monitor the students' computer responses, and provide program input as necessary. The requirement for two instructors is also specified for safety reasons in TO 7X-1-1-2, paragraph 2-1 and AFOSH 167-12X . See attached memorandum from the safety office and classroom diagram.

A4.9. Sample AETC Form 896, Lock Step/Multitrack Course Evaluation Data.

LOCK STEP/MULTITRACK COURSE EVALUATION DATA										
COURSE ID NUMBER								DATE PREPARED		
COURSE TITLE								INSTRUCTIONAL DESIGN		
BLOCK NO TOTAL HRS	**DAY/ UNIT**	**CLASSROOM INSTRUCTION**				**MEASUREMENT**		**TOTAL HOURS**	**MT**	**INST REQUIRED**	**C/L INSTR HOURS**
		L,DS	**DM**	**P**	**OTHER**	**WRITTEN**	**PERF**				
BLKS 1	1	1.00	1.00					2.00		1.00	2.00
	2		2.00					2.00		2.00	4.00
	3	1.00	2.00					3.00		1.00	3.00
	4			2.00				2.00		1.00	2.00
					4.00			4.00		2.00	8.00
						5.00		5.00		1.00	5.00
							6.00	6.00		6.00	36.00
TOTAL		2.00	5.00	2.00	4.00	5.00	6.00	24.00		14.00	60.00
NOTES:											

AETC FORM 896, 19931101 *(EF-V 2)*   .

A4.10. Sample Safety Memorandum.

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22 Feb 99

MEMORANDUM FOR 37 TRW/SE
                                  HQ AETC/DOOI
                                  IN TURN

FROM: 342 TRS/CC
           1220 Truemper Street, Ste 1
           Lackland AFB TX 78236-5546

SUBJECT: Approval of Safety Multiple Instructor Requirements (MIRs) for the Pararescue Apprentice Course (L3ABP1T231-002)

1. This memorandum supercedes the previous memorandum dated 11 Mar 96, same subject, requesting approval of the minimum safety MIR manpower authorizations in the Pararescue Apprentice Course taught at Kirtland AFB (see AETC Form 896).

2. This action is required to allow for an increase in the maximum number of MIR manpower authorizations from eight in course L3ABP1T231-001 to twelve in course L3ABP1T231-002. The maximum class size for this course has increased from 16 to 22. This course must be validated and therefore a thorough review and validation of the MIRs will be accomplished during the validation period.

                                             DAVID A. CORWIN, Lt Col, USAF
                                             Commander

Attachment:
AETC Form 896

1st Ind, 37 TRW/SE

Concur/Nonconcur

                                             MICHAEL L. BALLARD, GS-12, DAFC
                                             Acting Chief of Safety

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Attachment 5

SAMPLE WASHBACK COMPUTATION

DATE: <u>20 Jul 00</u>

A5.1. Basic Data for Calculation:

Course Number	Graduates (Grads)	Washbacks (WB)	Advancements (Adv)	Eliminations (Elims)	Maximum Group Size (MGS)
X3ABR1N131-004	149	14	2	5	13

A5.2. Computation for Expected Group Size Difference (EGSD):

EGSD Formula	EGDS	EGDS > 0?	
		If No	**If Yes**
$\dfrac{WB - Adv - Elims}{Grads + Elims}$	0.0455	STOP (washback rate per course not allowed)	Compute EPGS

A5.3. Computation for Expected Program Group Size (EPGS):

EPGS Formula	EPGS calculation	EPGS Fraction > .74		EPGS
		If No	**If Yes**	
$\dfrac{MGS}{1 + EGSD}$	12.434	Drop Fraction	Round Up	12

A5.4. Computation for Washback Rate:

Washback Rate Formula	Washback Rate
MGS - EPGS	1

NOTES:
1. Use a full year's history. All data except MGS is maintained and obtained from the registrar's office, Training Course Status Report. Source of data for the MGS is the TM.
2. For a replacement course, use the previous course's data. A new course will not have a washback rate.
3. ITRO courses will not have a washback rate.

Attachment 6

HOW AGGREGATION WORKS

NOTE: This process only occurs during the pricing cycle.

Step 1: Calculate fractional instructor manpower (EM) for each course involved then list in the EM column.

Course Number	Equation Manpower	Rounded Manpower		Aggregation (AG)		Final Manpower
	(EM)	(RM)		Integer	Fractional	(FM)
Course A	.28					
Course B	1.37					
Course C	3.02					
Total						

Step 2: Determine the RM for each course—any fraction is rounded up to the next whole number.

Course Number	Equation Manpower	Rounded Manpower		Aggregation (AG)		Final Manpower
	(EM)	(RM)		Integer	Fractional	(FM)
Course A	.28	1				
Course B	1.37	2				
Course C	3.02	4				
Total						

Step 3: Total the EM column. Round the EM total to the next integer (whole) number and record this number in both the AG and FM total columns.

Course Number	Equation Manpower	Rounded Manpower		Aggregation (AG)		Final Manpower
	(EM)	(RM)		Integer	Fractional	(FM)
Course A	.28	1				
Course B	1.37	2				
Course C	3.02	4				
Total	**4.67**				5	5

Step 4: Total the RM column.

Course Number	Equation Manpower	Rounded Manpower		Aggregation (AG)		Final Manpower
	(EM)	(RM)		Integer	Fractional	(FM)
Course A	.28	1				

Course Number	Equation Manpower	Rounded Manpower		Aggregation (AG)		Final Manpower
Course B	1.37	2				
Course C	3.02	4				
Total	**4.67**	**7**		**5**		**5**

Step 5: Compare the AG total to the RM total. If the AG total = RM total, the RM for each course is the Final Manpower required. If the AG total < RM total then proceed to step 6 (Aggregation).

Step 6:
a. For each course, take the integers from the EM column and record in the AG's Integer column (in this example Course B and C earn 1 and 3, respectively).

Course Number	Equation Manpower	Rounded Manpower		Aggregation (AG)		Final Manpower
	(EM)	(RM)		Integer	Fractional	(FM)
Course A	.28	1		0		
Course B	1.37	2		1		
Course C	3.02	4		3		
Total	**4.67**	**7**		**5**		**5**

b. Compare the fractional EM of each course. For the course with the highest fractional manpower, record 1 in the corresponding AG factional column.

Course Number	Equation Manpower	Rounded Manpower		Aggregation (AG)		Final Manpower
	(EM)	(RM)		Integer	Fractional	(FM)
Course A	.28	1		0		
Course B	1.37	2		1	1	
Course C	3.02	4		3		
Total	**4.67**	**7**		**5**		**5**

c. Repeat step b until the course total of the combined Integer and Fractional columns equals the amount pre-recorded in the AG total column. If exceeded, check for errors.

Step 7: Using the AG column, add the Integer + Fractional amounts to obtain the course's Final Manpower for instructors and record in the FM column. Some courses may not receive instructors as the family group will support them.

Course Number	Equation Manpower	Rounded Manpower		Aggregation (AG)		Final Manpower
	(EM)	(RM)		Integer	Fractional	(FM)
Course A	.28	1		0		0
Course B	1.37	2		1	1	2

Course Number	Equation Manpower	Rounded Manpower		Aggregation (AG)		Final Manpower
Course C	3.02	4		3		3
Total	**4.67**	**7**		**5**		**5**

NOTE: Courses in the same OSC are a family group and are checked for aggregation during pricing. Unless submitting merged courses or type 4 courses, bases don't normally use aggregation.

Attachment 7

BASIC AUTHORIZATION (BA) COMPUTATION

NOTE: The following is an example of how percentages are distributed to authorizations. The example is based on a scenario in which a course earns a total of 20 authorizations and is an initial skill course with a nonstandard BA for a set cost.

Order of Distribution Actions:

1. Subtractive
2. Set Cost
3. Percentages
4. Compute and Add

Course earns 20 authorizations. There are no subtractives to apply. The course has a set cost of one civilian. Therefore, the percentages will be figured on 19 authorizations (20 – 1), since the set cost will always be allotted first.

Percentages are as follows (Standard BA for initial skills course):

MSgt	TSgt	SSgt	SrA
4%	8%	44%	44%

Distribution is figured as follows (break point is .5999):

	MSgt	**TSgt**	**SSgt**	**SrA**
Rate	4%	8%	44%	44%
Calculation	19 x 4% = .76	19 x 8% = 1.52	19 x 44% = 8.36	19 x 44% = 8.36
Adjustment	+.24 to equal 1	1.52 - .24 from MSgt = 1.28	8.36 + .28 from TSgt = 8.64	8.36 - .36 from SSgt = 8.00
Earns	1	1	9	8

MSgt	TSgt	SSgt	SrA	Civilian	Total
1	1	9	8	1	20

NOTE: The last number will always be a whole number. If a fraction remains, there is an error in the computation. BA calculation may be done by hand or by using a BA computation worksheet.